

THE UNIVERSITY OF MARYLAND

CATALOGUE

1921-1922

Containing general information concerning the University, Announcements for the Scholastic Year 1921-1922, and Records of 1920-1921

Contents

CALENDAR OF MONTHS.....	4
UNIVERSITY CALENDAR.....	5
BOARD OF REGENTS, UNIVERSITY COUNCIL, EDUCATIONAL UNITS, OFFICERS OF INSTRUCTION, COMMITTEES, ETC.....	8
GENERAL INFORMATION.....	19
Location.....	21
Historical statement.....	21
Building and grounds.....	22
Scholarships and self-aid.....	25
Honors and awards.....	26
Student activities and organizations.....	27
Administration.....	28
Extension and research.....	30
Income.....	32
Admission and requirements.....	32
Degrees, diplomas and expenses.....	35
Fees, deposits and expenses.....	36
Administrative procedure, including suggestions for new students.....	38
EDUCATIONAL UNITS	
College of Agriculture.....	41
College of Arts and Sciences.....	83
School of Dentistry.....	115
College of Education.....	117
College of Engineering.....	131
Graduate School.....	145
College of Home Economics.....	148
Law School.....	153
School of Medicine.....	161
School of Pharmacy.....	157
Department of Military Science and Tactics.....	163
Department of Physical Education and Recreation.....	169
LIST OF DEGREES CONFERRED, AWARDS, REGISTER OF STUDENTS, SUMMARY OF STUDENTS.....	170

Calendar for 1921, 1922, 1923

1921							1922							1923													
JULY							JANUARY							JULY							JANUARY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
3	4	5	6	7	8	9	1	2	3	4	5	6	7	2	3	4	5	6	7	8	7	8	9	10	11	12	13
10	11	12	13	14	15	16	15	16	17	18	19	20	21	9	10	11	12	13	14	15	14	15	16	17	18	19	20
17	18	19	20	21	22	23	22	23	24	25	26	27	28	16	17	18	19	20	21	22	21	22	23	24	25	26	27
24	25	26	27	28	29	30	29	30	31					23	24	25	26	27	28	29	28	29	30	31			
31														30	31												
AUGUST							FEBRUARY							AUGUST							FEBRUARY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
7	8	9	10	11	12	13			1	2	3	4			1	2	3	4	5		4	5	6	7	8	9	10
14	15	16	17	18	19	20	12	13	14	15	16	17	18	13	14	15	16	17	18	19	11	12	13	14	15	16	17
21	22	23	24	25	26	27	19	20	21	22	23	24	25	20	21	22	23	24	25	26	18	19	20	21	22	23	24
28	29	30	31				26	27	28					27	28	29	30	31			25	26	27	28			
SEPTEMBER							MARCH							SEPTEMBER							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
4	5	6	7	8	9	10	5	6	7	8	9	10	11	3	4	5	6	7	8	9	4	5	6	7	8	9	10
11	12	13	14	15	16	17	12	13	14	15	16	17	18	10	11	12	13	14	15	16	11	12	13	14	15	16	17
18	19	20	21	22	23	24	19	20	21	22	23	24	25	17	18	19	20	21	22	23	18	19	20	21	22	23	24
25	26	27	28	29	30		26	27	28	29	30	31		24	25	26	27	28	29	30	25	26	27	28	29	30	31
OCTOBER							APRIL							OCTOBER							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
2	3	4	5	6	7	8	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7
9	10	11	12	13	14	15	9	10	11	12	13	14	15	8	9	10	11	12	13	14	8	9	10	11	12	13	14
16	17	18	19	20	21	22	16	17	18	19	20	21	22	15	16	17	18	19	20	21	15	16	17	18	19	20	21
23	24	25	26	27	28	29	23	24	25	26	27	28	29	22	23	24	25	26	27	28	22	23	24	25	26	27	28
30	31						30							29	30	31					29	30					
NOVEMBER							MAY							NOVEMBER							MAY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
6	7	8	9	10	11	12	7	8	9	10	11	12	13	5	6	7	8	9	10	11	6	7	8	9	10	11	12
13	14	15	16	17	18	19	14	15	16	17	18	19	20	12	13	14	15	16	17	18	13	14	15	16	17	18	19
20	21	22	23	24	25	26	21	22	23	24	25	26	27	19	20	21	22	23	24	25	20	21	22	23	24	25	26
27	28	29	30				28	29	30	31				26	27	28	29	30			27	28	29	30	31		
DECEMBER							JUNE							DECEMBER							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
4	5	6	7	8	9	10	4	5	6	7	8	9	10	3	4	5	6	7	8	9	3	4	5	6	7	8	9
11	12	13	14	15	16	17	11	12	13	14	15	16	17	10	11	12	13	14	15	16	10	11	12	13	14	15	16
18	19	20	21	22	23	24	18	19	20	21	22	23	24	17	18	19	20	21	22	23	17	18	19	20	21	22	23
25	26	27	28	29	30	31	25	26	27	28	29	30		24	25	26	27	28	29	30	24	25	26	27	28	29	30
														31													

University Calendar 1921-1922

Unless otherwise indicated, this calendar refers to the activities at College Park.

FIRST TERM

1921			Entrance and condition examinations. Registration for all students.
Sept. 19-20	Monday—Tuesday		
Sept. 27	Wednesday, 8.20 a. m.		Instruction for first term begins No admission to classes without class cards.
Sept. 27	Wednesday, 11.20 a. m.		Assembly of student body for President's annual address.
Sept. 28	Friday, 8.00 p. m.		President's reception for new students. Presentation of Freshman Code.
Sept. 26	Monday		Last day to register or change registration without payment of additional fee.
Sept. 25	Monday		The School of Law. Regular session begins.
Oct. 2	Monday		The School of Medicine The School of Pharmacy The School of Dentistry Regular session begins.
Nov. 11	Second Friday in November, 8.00 p. m.		Freshman entertainment.
Nov. 28	Wednesday, 12.00 m.		Thanksgiving recess begins.
Nov. 31	Thursday		The School of Medicine The School of Law The School of Pharmacy The School of Dentistry Thanksgiving day. Holiday.
Nov. 29	Tuesday, 8.20 a. m.		Classes begins after Thanksgiving recess.
Dec. 2	Second Friday after Thanksgiving, 8 p. m.		Christmas Dance.
Dec. 15	Friday, 8.00 p. m.		Presentation by "The Players." Registration for second term.

Dec 11-21

Dec. 17 ²¹ Saturday, 12 M.

Dec. 20 Wednesday

First term ends.
Christmas recess begins
The School of Medicine
The School of Law
The School of Pharmacy
The School of Dentistry
Christmas recess begins after
last lecture period

SECOND TERM

1922
Jan. 2

Monday

Payment of fees and securing class
cards. (Office of the Financial
Secretary and Office of the Reg-
istrar open from 8.00 a.m. to
5.00 p.m.)

Jan. 3

Tuesday, 8.20 a.m.

Instruction for second term begins.
No admission to classes without
class cards.

Jan. 4

Wednesday

The School of Medicine
The School of Law
The School of Pharmacy
The School of Dentistry

Jan. 9

Monday

Christmas recess ends. Lec-
tures begin at 9 a.m.

Last day to register or change
registration without payment of
additional fee.

Feb. 12

First Friday in February

Intersociety debate.

Feb. 22

Wednesday

Washington's Birthday. General
holiday for College Park colleges
and the four schools in Balti-
more

Mar. 1

Thursday, 8.00 p.m.

Intercollegiate debate.

Mar. 19

Monday

Registration for third term.

Mar. 25

Saturday, 12 m.

Second term ends. Last day for
payment of fees and securing
class cards. (Office of the Fi-
nancial Secretary and Office of
the Registrar open from 8.00
a.m. to 5.00 p.m.)

THIRD TERM.

Mar. 27

Monday, 8.20 a.m.

Instruction for third term begins
No admission to classes without
class cards.

Apr. 8 Monday

Last day to register or change
registration without payment of
additional fee.

Apr. 13 Thursday, 12 m.

Easter recess begins.

Apr. 13 Thursday

The School of Medicine
The School of Law
The School of Pharmacy
The School of Dentistry

Easter recess begins after last
lecture period.

Apr. 18 Tuesday, 9.00 a.m.

The School of Medicine
The School of Law
The School of Pharmacy
The School of Dentistry
Classes begin after Easter recess.

Apr. 19 Wednesday, 8.20 a.m.

Classes begin after Easter recess.

May 19 Third Friday in May, May Ball.
8.30 p.m.

May 30

Tuesday

Decoration Day. Holiday.

June 1

Thursday

The School of Medicine
The School of Law
The School of Pharmacy
The School of Dentistry
Commencement Day.

June 2 Friday, 8.00 p.m.

Presentation by "The Players."

June 4 Sunday, 11.00 a.m.

Beginning Commencement exer-
cises. Baccalaureate Sermon.

June 8 Thursday, 8.00 p.m.

Class Day exercises.

June 9 Friday

Reunion Day.

June 9 Friday, 9.00 p.m.

Commencement Ball.

June 10 Saturday, 11.00 a.m.

Commencement Day.

BOARD OF REGENTS

(Members appointed by the Governor for terms of nine years)

SAMUEL M. SHOEMAKER, Chairman.....	1916-1925
Eccleston, Baltimore County.	
ROBERT CRAIN.....	1916-1924
Mt. Victoria, Charles County.	
JOHN M. DENNIS, Treasurer.....	1916-1923
Union Trust Co., Baltimore.	
DR. FRANK J. GOODNOW.....	1916-1922
6 West Madison Street, Baltimore.	
JOHN E. RAINE.....	1921-1930
413 East Baltimore Street, Baltimore.	
CHARLES C. GELDER.....	1920-1929
Princess Anne, Somerset County.	
DR. W. W. SKINNER, Secretary.....	1919-1928
Kensington, Montgomery County.	
B. JOHN BLACK.....	1918-1927
Roslyn, Baltimore County.	
HENRY HOLZAPFEL.....	1917-1926
Hagerstown, Washington County.	

COMMITTEES

UNIVERSITY AND EDUCATIONAL WORK

DR. FRANK J. GOODNOW, Chairman
ROBERT CRAIN
DR. W. W. SKINNER

EXPERIMENT STATION AND INVESTIGATIONAL WORK

B. JOHN BLACK, Chairman
DR. W. W. SKINNER
HENRY HOLZAPFEL

EXTENSION AND DEMONSTRATION WORK

ROBERT CRAIN, Chairman
B. JOHN BLACK
JOHN E. RAINE

INSPECTION AND CONTROL WORK

JOHN M. DENNIS, Chairman
HENRY HOLZAPFEL
CHARLES C. GELDER

ADMINISTRATIVE OFFICERS

ALBERT F. WOODS, A.M., D. AGR., President.
H. C. BYRD, B.S., Assistant to the President.
J. E. PALMER, Executive Secretary.
MAUDE F. MCKENNEY, Financial Secretary.
G. S. SMARDON, Comptroller.
W. M. HILLEGEIST, Registrar.
ARTHUR M. SHIPLEY, M.D., Superintendent of Hospitals.
H. L. CRISP, M.M.E., Superintendent of Buildings.
T. A. HUTTON, Purchasing Agent and Manager of Students' Supply Store.

THE UNIVERSITY COUNCIL

ALBERT F. WOODS, A.M., D.Agr., President of the University.
H. C. BYRD, B.S., Assistant to the President.
P. W. ZIMMERMAN, M.S., Dean of the College of Agriculture.
A. N. JOHNSON, S.B., Dean of the College of Engineering.
THOMAS H. SPENCE, M.A., Acting Dean of the College of Arts and Sciences.
J. M. H. ROWLAND, M.D., Dean of the School of Medicine.
HENRY D. HARLAN, LL.D., Dean of the School of Law.
E. FRANK KELLY, Phar.D., Dean of the School of Pharmacy.
T. O. HEATWOLE, M.D., D.D.S., Dean of the School of Dentistry.
H. F. COTTERMAN, M.S., Dean of the College of Education.
M. MARIE MOUNT, A.B., Acting Dean of the College of Home Economics.
C. O. APPLEMAN, Ph.D., Dean of the Graduate School.
H. J. PATTERSON, D.Sc., Director of the Agricultural Experiment Station.
T. B. SYMONS, M.S., D.Agr., Director of the Extension Service.
R. H. LEAVITT, Major, U. S. A., Head of the Department of Military Science and Tactics.

THE GRADUATE SCHOOL COUNCIL

ALBERT F. WOODS, A.M., D.Agr., President.
C. O. APPLEMAN, Ph. D., Dean of the Graduate School, Chairman.
E. S. JOHNSTON, Ph.D., Secretary.
H. J. PATTERSON, D.Sc., Director of the Agricultural Experiment Station.
T. H. TALIAFERRO, C.E., Ph.D., Professor of Mathematics.
E. N. CORY, M.S., Professor of Entomology.
H. C. HOUSE, Ph.D., Professor of English Language and Literature.
A. G. MCCALL, Ph.D., Professor of Geology and Soils.
DEVÖE MEADE, Ph.D., Professor of Animal Husbandry.
N. E. GORDON, Ph.D., Professor of Physical Chemistry.

OFFICERS OF INSTRUCTION

ALBERT F. WOODS, M.A., D.Agr., President

(The order of the following is that of seniority of appointment)

H. B. McDONNELL, M.S., M.D., Professor of Chemistry.
T. H. SPENCE, M.A., Professor of Modern Languages, Acting Dean of College of Arts and Sciences.
W. T. L. TALIAFERRO, A.B., Sc.D., Professor of Farm Management.
J. B. S. NORTON, M.S., Professor of Systematic Botany and Mycology.
CHARLES S. RICHARDSON, M.A., Professor of Public Speaking and Extension Education.
HARRY GWINNER, M. E., Professor of Mechanical Engineering, Vice-Dean of College of Engineering.
T. H. TALIAFERRO, C.E., Ph.D., Professor of Mathematics.
MYRON CREESE, B.S., E.E., Professor of Electrical Engineering.
E. N. CORY, M.S., Professor of Entomology, State Entomologist.
C. O. APPLEMAN, Ph.D., Professor of Plant Physiology and Biochemistry, Dean of Graduate School.
ROY H. WAITE, M.S., Professor of Poultry Husbandry.
L. B. BROUGHTON, M.S., Professor of Industrial Chemistry.
H. C. BYRD, B.S., Assistant to the President and Director of Athletics.
C. E. TEMPLE, M.S., Professor of Plant Pathology.
J. E. METZGER, B.S., Professor of Agronomy.
O. C. BRUCE, B.S., Professor of Soils.
C. J. PIERSON, M.A., Professor of Zoology.
P. W. ZIMMERMAN, M.S., Professor of Plant Physiology and Ecology, Dean of College of Agriculture.
J. B. WENTZ, M.S., Professor of Agronomy.
A. G. MCCALL, Ph.D., Professor of Geology and Soils.
R. C. REED, D.V.M., Professor of Animal Pathology, Chairman of Animal Industry Group.
H. F. COTTERMAN, B.S., M.A., Professor of Agricultural Education, Director of Vocational Teacher Training, Dean College of Education.
J. A. GAMBLE, M.S., Professor of Dairy Husbandry.
E. M. PICKENS, D.V.S., M.S., Professor of Bacteriology and Animal Pathologist of the Biological and Live Stock Sanitary Laboratory.
DEVÖE MEADE, Ph.D., Professor of Animal Husbandry.
E. C. AUCHTER, M.S., Professor of Horticulture.
M. MARIE MOUNT, B.A., Professor of Home and Institutional Management, Acting Dean of College of Home Economics.
EDNA B. MCNAUGHTON, B.S., Professor of Home Economics Education.
M. M. PROFFITT, Ph.B., Professor of Industrial Education.
NEIL E. GORDON, Ph.D., Professor of Physical Chemistry, State Chemist.
T. B. THOMPSON, Ph.D., Professor of Economics and Sociology.

S. S. STEINBERG, B.E., C.E., Professor of Civil Engineering.
 FREIDA M. WIEGAND, B.A., Professor of Textiles and Clothing.
 R. V. TRUITT, B.S., Professor of Aquiculture.
 H. A. JONES, Ph.D., Professor of Vegetable Gardening.
 R. W. CARPENTER, A.B., Professor of Farm Equipment.
 H. C. HOUSE, Ph.D., Professor of English and English Literature, Director of Choral Music.
 A. N. JOHNSON, S.B., Professor of Highway Engineering, Director of Engineering Research, Dean of College of Engineering.
 MAJ. R. H. LEAVITT, U.S.A., Professor of Military Science and Tactics.
 MAJ. A. T. DALTON, U. S. A., Associate Professor of Military Science and Tactic.
 *FREDERICK JUCHHOFF, LL.M., Ph.D., Professor of Accounting.
 F. W. BESLEY, A.B., M.F., D.Sc., Lecturer on Forestry.
 *ALBERT H. PUTNEY, Ph.D., D.C.L., LL.D., Lecturer on Diplomacy and International Law.
 O. G. EICHLIN, B.S., Professor of Physics.
 H. W. STINSON, B.S., Associate Professor of Modern Languages.
 H. W. RICHEY, M.S., Associate Professor of Pomology.
 G. J. SCHULZ, A.B., Assistant Professor of History and Political Science.
 C. F. KRAMER, J. R., A.M., Assistant Professor of Modern Languages.
 J. T. SPANN, B.S., Assistant Professor of Mathematics.
 R. C. WILEY, B.S., Assistant Professor of Chemistry.
 H. B. HOSHALL, B.S., Assistant Professor of Mechanical Engineering.
 A. S. THURSTON, M.S., Assistant Professor of Floriculture.
 M. F. WELSH, D.V.M., Assistant Professor of Animal Pathology and Bacteriology.
 L. B. HODGINS, B.S., Assistant Professor of Electrical Engineering.
 E. S. JOHNSTON, Ph.D., Assistant Professor of Plant Physiology.
 F. M. LEMON, A.M., Assistant Professor of English.
 I. G. GIBSON, B.S., Assistant Professor of Dairy Husbandry.
 GEORGE O. SMITH, M.S., Assistant Professor of Animal Husbandry.
 M. A. PYLE, B.S., Instructor in Civil Engineering.
 W. A. GRIFFITH, M.D., Instructor in Hygiene, College Physician.
 MILTANNA ROWE, Instructor in Library Science, Librarian.
 M. D. BOWERS, A.B., Instructor in Journalism.
 MRS. CLARIBEL P. WELSH, B.A., Instructor in Textiles and Clothing, Foods and Cookery.
 L. J. POELMA, D.V.S., Instructor in Dairy Bacteriology.
 BENJAMIN BERMAN, B.S., Instructor in Mathematics and Drawing.
 J. B. BLANDFORD, Instructor in Horticulture, Horticultural Superintendent.
 W. E. LEER, B.S.A., Instructor in Agronomy.
 SUSAN E. HARMAN, A.M., Instructor in English.
 O. C. LICHTENWALNER, B.S., Instructor in Chemistry.
 ALBERT VIERHELLER, B.S.A., Instructor in Horticulture for Federal Board Students.
 D. C. HENNICK, Assistant in Mechanical Engineering.
 EDWARD F. NEW, B.P., LL.M., Instructor in Commercial Law.

*B. M. WOOLSEY, A.M., Instructor in Business Administration.
 F. D. DAY, B.S., Assistant in Agricultural Education.
 CARLETON RUTLEDGE, Assistant in Poultry Husbandry.
 G. B. HOCKMAN, B.S., Teaching-Fellow in Chemistry.
 E. B. STARKEY, B.S., Teaching-Fellow in Chemistry.
 W. J. SANDO, B.S., Teaching-Fellow in Agronomy.
 B. L. GOODYEAR, B.S., B.Mus., Teacher of Voice and Piano.
 M. McMANUS, Sgt. U.S.A., Assistant in Military Science and Tactics.
 E. FERGUSON, Sgt. U.S.A., Assistant in Military Science and Tactics.
 W. H. SIMMONS, Sgt. U.S.A., Assistant in Military Science and Tactics.

*By Special arrangement with American University.

AGRICULTURAL EXPERIMENT STATION STAFF

HARRY J. PATTERSON, D.Sc.	Director and Chemist.
J. B. S. NORTON, M.S.	Botany and Plant Pathology.
THOS. H. WHITE, M.S.	Vegetable and Floriculture.
CHAS. O. APPLEMAN, Ph.D.	Plant Physiology.
ROY H. WAITE, B.S.	Poultry.
E. N. CORY, M.S.	Entomology.
A. G. MCCALL, Ph.D.	Soils.
J. E. METZGER, B.S.	Agronomy.
E. M. PICKENS, A.M., D.V.M.	Animal Pathology.
E. C. AUCHTER, M.S.	Horticulture.
ALBERT WHITE, B.S.	Superintendent, Ridgely Farm.
F. S. HOLMES, M.S.	Seed Inspection.
H. A. JONES, Ph.D.	Vegetable Breeding.
C. E. TEMPLE, A.M.	Associate, Plant Pathology.
E. S. JOHNSTON, Ph.D.	Associate, Plant Physiology.
O. C. BRUCE, B.S.	Associate, Soil Survey.
A. M. SMITH, B.S.	Associate, Soils.
H. W. RICHEY, B.S.	Associate, Pomology.
R. L. SELLMAN, B.S.	Assistant, Agronomy.
J. P. JONES, B.S.	Assistant, Plant Physiology.
E. V. MILLER, B.S.	Assistant, Plant Physiology.
H. B. WINANT, B.S.	Assistant, Soils.
W. N. EZEKIEL, B.S.	Assistant, Plant Pathology.
C. C. HAMILTON, M.S.	Assistant, Entomology.
ANNA M. HOOK	Assistant, Seed Inspection.
ISABELLA VEITCH	Assistant, Seed Inspection.
CAROLINE VEITCH	Assistant, Seed Inspection.

EXTENSION SERVICE STAFF

*THOMAS B. SYMONS, M.S.D., Agr.	Director.
*F. B. BOMBERGER, B.S., A.M., D.Sc.	Assistant Director and Specialist in Rural Organization and Marketing.
*G. H. BEDELL, B.S.	District Agent and Specialist in Animal Husbandry.
*E. G. JENKINS	State Boys' Club Agent.
*PETER CHICHESTER, B.S.	Assistant Boys' Club Agent.
*MISS VENIA M. KELLAR, B.S.	State Home Demonstration Agent.
*MISS OLA M. DAY	District Agent.
*MRS. MARION C. BELL	District Agent.
BERTHA KNIGHT, B. S.	District Agent.
*MISS ADICE S. JONES	Assistant State Girls' Club Agent.
†E. C. AUCHTER, M.S.	Specialist in Horticulture.
W. R. BALLARD, B.S.	Specialist in Vegetable and Landscape Gardening.
M. D. BOWERS, B.A.	Specialist in Agricultural Journalism.
†R. W. CARPENTER, A.B.	Specialist in Farm Equipment.
†E. N. CORY, M.S.	Specialist in Entomology.
†J. A. GAMBLE, M.S.	Specialist in Dairying.
R. A. JEHL, B.S.A., Ph.D.	Specialist in Pathology.
F. W. OLDENBURG, B.S.	Specialist in Agronomy.
†C. S. RICHARDSON, A.B.	Specialist in Educational Extension.
H. W. RICKEY	Specialist in Poultry Husbandry.
S. B. SHAW, B.S.	Specialist in Horticulture.
C. E. TEMPLE, M.S.	Specialist in Pathology.
†G. E. WOLCOTT, B.S.	Specialist in Dairying.

*In cooperation with U. S. Department of Agriculture.

†Devoting part time to Extension Work.

COUNTY AGRICULTURAL AGENTS

Name	County	Headquarters
*R. F. MCHENRY, B.S.	Allegany	Cumberland.
*G. W. NORRIS, B.S.	Anne Arundel	Annapolis.
*EDW. E. MCLEAN, B.S.	Baltimore	Towson.
*J. H. DRURY	Calvert	Chaney.
*W. C. THOMAS, B.S.	Caroline	Denton.
*F. W. FULLER, B.S.	Carroll	Westminster.
*W. C. SNARR, B.S.	Cecil	Elkton.
*J. P. BURDETTE, A.B.	Charles	La Plata.
*P. W. MOORE, B.S.	Dorchester	Cambridge.
*P. A. HAUVER, B.S.	Frederick	Frederick.
*J. A. TOWLER, B.S.	Garrett	Oakland.
*B. B. DERRICK, B.S.	Harford	Bel Air.
*R. L. POST, B.S., M.S.	Howard	Ellicott City.

*In cooperation with the U. S. Department of Agriculture.

*H. B. DERRICK, B.S.	Kent	Chestertown.
*F. J. VAN HOESSEN	Montgomery	Rockville.
*W. B. POSEY, B.S.	Prince George	Upper Marlboro.
*O. C. JONES, B.S.	Queen Anne's	Centerville.
*G. F. WATHEN	St. Mary's	Loveville.
*C. Z. KELLER, B.S.	Somerset	Princess Anne.
*E. P. WALLS, B.S., M.S.	Talbot	Easton.
*G. R. COBB, B.S.	Wicomico	Salisbury.
*E. I. OSWALD, B.S.	Worcester	Snow Hill.
*S. E. DAY, B.S.	Washington	Hagerstown.

ASSISTANT COUNTY AGENT

*G. R. STUNTZ, B.S.	Harford	Bel Air.
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LOCAL AGENTS

*J. F. ARMSTRONG (colored)	Southern Maryland	Seat Pleasant.
*L. H. MARTIN (colored)	Eastern Shore	Princess Anne.

COUNTY HOME DEMONSTRATION AGENTS

Name	County	Headquarters
*M. RHEA MORGAN	Allegany	Cumberland.
*MRS. G. LINTHICUM	Anne Arundel	Annapolis.
	Baltimore	
	Calvert	
*EDITH G. NORMAN, B.S.	Caroline	Denton.
*RACHEL EVERETT	Carroll	Westminster.
*DOROTHY ROSS	Cecil	Elkton.
*MRS. ELVA BOHANNAN	Charles	La Plata.
*CELESTE F. CRIPPEN	Dorchester	Cambridge.
*FRANCES GERBER, B.S.	Frederick	Frederick.
*BLANCHE GITTINGER, B.S.	Harford	Bel Air.
	Howard	
*LAURA I. HENSHAW	Garrett	Oakland.
*SUSAN V. HILL	Kent	Chestertown.
*CATHERINE COWSILL	Montgomery	Rockville.
*ELLEN L. DAVIS	Prince George	Hyattsville.
*ELIZABETH HODGSON	Queen Anne's	Centerville.
*ETHEL JOY	St. Mary's	Leonardtown.
*LOUISE M. MILLS	Somerset	Princess Anne.
*OLIVE K. WALLS	Talbot	Easton.
*CLARA MULLEN	Wicomico	Salisbury.
*LUCY J. WALTER	Worcester	Snow Hill.
*SUE GARBERSON	Washington	Hagerstown.

LOCAL AGENTS

*LEAH D. WOODSON (colored)	Charles and St. Mary's	La Plata.
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GARDEN SPECIALIST

MRS. ADELAIDE DERRINGER	Madison and Lafayette Ave. Administration Building, Baltimore.
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*In Cooperation with the U. S. Department of Agriculture.

FACULTY COMMITTEES FOR 1921-1922

ALUMNI

Messrs. Broughton, Hoshall, Stinson, Hillegeist and Cory.

BUILDINGS

Messrs. Crisp, Gwinner, Creese, Pierson and Carpenter.

CATALOGUE, STUDENT ENROLLMENT AND ENTRANCE

Messrs. Zimmerman, Byrd, Spence, Cotterman, Creese, Broughton, Hillegeist, Appleman, and Miss Mount.

UNIVERSITY PUBLICATIONS

Messrs. Patterson, Bowers, McDonnell, Richardson and Symons.

COURSES OF STUDY

Messrs. Cotterman, Reed, Spence, Zimmerman, Gordon, Hillegeist, Leavitt, Appleman, T. H. Taliaferro and Johnson, and Misses Mount and Wiegand

GROUND AND ROADS

Messrs. Auchter, Thurston, Crisp, Patterson, Steinberg, Metzger and Carpenter.

COMMENCEMENT

Messrs. T. H. Taliaferro, Richardson, Cory, Spence, House and Leavitt.

SANITATION

Messrs. Pickens, Griffith, McDonnell, W. T. L. Taliaferro, Cory, Pyle and Miss Mount.

STUDENT AFFAIRS

Messrs. Byrd, Broughton, Cory, Schulz, Bomberger and class presidents.

STUDENT PUBLICATIONS

Messrs. Steinberg, House, Bowers, Gamble and Lemon.

FARMERS' DAY

Messrs. Patterson, Symons and Zimmerman.

EDUCATIONAL STANDARDS

Messrs. Appleman, McCall, Gordon, Johnson, Cory and Hillegeist.

PRE-MEDICAL EDUCATION

Messrs. Cory, Davis, Broughton, Spence, Wiley and McGlore.

GENERAL INFORMATION

The University of Maryland

Location

The University of Maryland is located at College Park in Prince George's County, Maryland, on the line of the Washington branch of the Baltimore and Ohio Railroad, eight miles from Washington and thirty-two miles from Baltimore. At least eight trains a day from each city stop at College station, thus making the place easily accessible from all parts of the State. Telephone connection is made with the Chesapeake and Potomac lines.

The grounds front on the Baltimore and Washington Boulevard. The suburban town of Hyattsville is two miles to the south, and Laurel, the largest town in the county, is ten miles to the north on the same road. Access to these towns and to Washington may be had by steam and electric railway. The site of the University is particularly beautiful. The buildings occupy the crest of a commanding hill, which is covered with forest trees and overlooks the entire surrounding country. In front, extending to the boulevard, is a broad rolling campus, the drill ground and athletic field. A quarter of a mile to the northeast are the buildings of the Agricultural Experiment Station. The farm of the College of Agriculture contains about 300 acres, and is devoted to fields, gardens, orchards, vineyard, poultry yards, etc., used for experimental purposes and demonstration work in agriculture and horticulture.

The general appearance of the grounds is exceedingly attractive. They are tastefully laid off in lawns and terraces ornamented with shrubbery and flower beds.

The location of the University is healthful; the sanitary conditions are excellent. No better proof of this can be given than that there has been practically no serious case of illness among the students for many years.

The Schools of Medicine, Pharmacy, Dentistry, and Law of the University are located in Baltimore at the corner of Lombard and Greene Streets.

History

The history of the present University of Maryland practically combines the histories of two institutions. It begins with the chartering of the College of Medicine of Maryland in Baltimore in 1807, which graduated its first class in 1810. In 1812 the institution was empowered to annex other departments and was by the same act "constituted an University by the name and under the title of the University of Maryland." As such, its Law and Medical schools have since been especially prominent in the South and widely known throughout the country. The Medical School building in Baltimore, located at Lombard and Greene Streets, erected in 1814-1815, is the oldest structure in America devoted to medical teaching.

For more than a century the University of Maryland stood almost as organized in 1812, until an act of the Legislature in 1920 merged it with the Maryland

State College, and changed the name of the Maryland State College to the University of Maryland. All the property formerly held by the old University of Maryland was turned over to the Board of Trustees of the Maryland State College, and the Board of Trustees changed to be the Board of Regents.

The Maryland State College first was chartered in 1856 under the name of the Maryland Agricultural College, the second agricultural college in the Western Hemisphere. For three years the College was under private management. In 1862 the Congress of the United States, recognizing the practical value and increasing need of such colleges, passed the Land Grant Act. This act granted each State and Territory that should claim its benefits a proportionate amount of unclaimed Western lands, in place of scrip, the proceeds from the sale of which should apply under certain conditions to the "endowment, support and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." This grant was accepted by the General Assembly of Maryland. The Maryland Agricultural College was named as the beneficiary of the grant. Thus the College became, at least in part, a State institution. In the fall of 1914 its control was taken over entirely by the State. In 1916 the General Assembly granted a new charter to the College and made it the Maryland State College.

The University is coeducational and under the charter every power is granted necessary to carry on an institution of higher learning and research, comparable to the great state universities of the West, in which Agriculture and Engineering hold a dominant place along with the Liberal Arts and professions. This is in full accord with the Morrill Act of the National Congress and the subsequent acts above referred to. This institution, therefore, is the representative of the State and the Nation in higher education and research. The charter provides that it shall receive and administer all existing grants from the national government and all future grants which may come to the State for this purpose.

BUILDINGS

Some eighteen buildings have been erected on the University campus for research, extension, and residence educational purposes. The buildings comprised in the group are the Agricultural Building, Calvert Hall, the Library, Engineering Buildings, Chemical Building, Morrill Hall, Horticultural Building, the Hospital, Stock Judging Pavilion, Poultry Building, temporary dining-hall, temporary auditorium, Girls' Home Economics Practice House, and the Agricultural Experiment Station group. Other buildings are located in Baltimore.

Agricultural Building

The Executive Offices, the College of Agriculture, College of Education, College of Home Economics, and the Agricultural and Home Economics Extension

Service are housed in the Agricultural Building. This structure was completed and occupied in April, 1918. The building also contains biological, soils and bacteriological laboratories.

Buildings in Baltimore

The buildings of the University in Baltimore are located at the corner of Lombard and Greene streets. They consist of the original building erected in 1814, and more modern buildings adjoining, one of which is devoted to Law and one the University Hospital.

Calvert Hall

Excellent dormitory accommodations for men are provided in Calvert Hall, a modern fireproof structure erected and occupied in 1914. It took in part the place of the two dormitories destroyed by fire in 1912.

New Dormitories

Two new buildings are under construction. One is to be used as a men's dormitory and the other for women. The men's dormitory will be a large four-story building while the women's will be a unit of the Home Economics group.

Morrill Hall

The College of Arts and Sciences is partially housed in Morrill Hall, which is a three-story building erected in 1898. This building formerly was occupied by the work in agriculture and engineering.

Chemical Building

The Chemical Building provides a place for instruction in Chemistry and for the state work in analysis of feeds, fertilizers and agricultural lime. It has classrooms, laboratories, and offices for all undergraduate work in chemistry. This work is under the jurisdiction of the College of Arts and Sciences.

Engineering Buildings

The Mechanical Building was the first of the Engineering group constructed, having been completed and occupied by the Department of Mechanical Engineering in 1898. The Civil Engineering and Electrical Engineering additions, with accompanying shops, were built in 1910. The three buildings are connected by closed passageways.

The Infirmary

The infirmary was erected in 1901 and makes possible excellent treatment for students in cases of sickness. It has a private ward for segregation of contagious diseases, quarters for trained nurse, operating room, doctor's office, special culinary equipment, and accommodations for twenty patients.

The Horticultural Building

Classrooms, propagation rooms, and offices are in the Horticultural Building, completed in 1915. Ten modern greenhouses are constructed as a part of this building.

The Stock Judging Pavilion

This building is used for stock judging competitions, for stock shows, and to house a part of the equipment of the dairy husbandry and farm machinery departments of the College of Agriculture. Connecting this building with the Agricultural Building is an auditorium to seat 600 persons.

The Poultry Buildings

Research in poultry projects and laboratory practice is carried on in the Poultry Building. The main building contains classrooms, laboratories, offices and incubating rooms.

Experiment Station Group

The main building of the experiment station group is a large brick structure of the colonial period. It contains the office of the Director of the Station, the chemical and physiological laboratories, and a laboratory for research in soils. Other buildings of this group contain seed and milk testing laboratories and classrooms. There are also greenhouses, an Agronomy Building, a secondary horticultural building, barns, farm machinery buildings, silos, etc.

Temporary Dining-Hall

A temporary wooden structure has been erected to serve as a dining-hall until the Legislature appropriates money to put up a permanent building. This wooden structure is well built and contains kitchen equipment and other facilities for comfortably taking care of about 500 persons.

Other Buildings

Another wooden structure used for several years as an auditorium is serving as a dormitory. The University also maintains a laundry building in which it handles the students' laundry at cost. It also has two frame dwelling-houses in which it houses part of its labor. A brick power-house contains apparatus for pumping all water for College use. Another small frame house contains machinery for canning and drying fruits and vegetables.

The Filtration Plant

Recently completed is a modern filtration plant for furnishing an ample supply of water for use in the dormitories and general college buildings. This plant consists of a reservoir with a reserve supply of 1,500,000 gallons, sediment tanks, filter beds, pumps, etc.

Gerneaux Hall

This building serves as a dormitory and practice house for the girls taking courses in Home Economics. It is fitted with all the appliances of the modern home.

Library Building

The Library is housed in a separate two-story building on the first floor of which is collected material relating to agriculture. The special catalogue cards issued by the United States Department of Agriculture make accessible

the large amount of state and national bulletin literature on agricultural and related scientific subjects. The second floor is used for general reading and reference work.

Through the Inter-Library Loan systems of the Library of Congress and the United States Department of Agriculture the University Library is able to supplement its reference material by either personal work in these Washington libraries or by actually borrowing the books from them.

The Library contains 10,000 bound books and 5,000 United States Government documents and unbound reports and pamphlets. All material is on open shelves where students can easily locate it. The Library is open from 8.30 A. M. to 5.30 P. M., Monday to Friday inclusive; Saturday from 8.30 A. M. to 12.30 P. M.; Sunday afternoon from 2.30 to 5.30; and all evenings except Saturday, from 6 to 10.

SCHOLARSHIPS AND SELF AID

High School Scholarships

While the University has no endowment nor loan funds with which to assist students, it has established for each high and preparatory school in Maryland and the district of Columbia one scholarship each year. For the three counties of Maryland which do not have high schools, Calvert, Charles and St. Mary's, one scholarship each year is given. These scholarships have a value of fifty dollars and are credited to the holder's account.

These scholarships are offered under the following conditions:

1. The holder must be a graduate of a high or preparatory school and qualified to enter the freshman class.
2. The appointment to the scholarships must be made by the county school superintendent upon recommendation of the principal of the high school. In making recommendations high school principals should not only take into consideration class standing but also inability to meet the expenses of a university education.
3. The appointment shall be made for the term normally required to complete the curriculum selected.
4. The scholarship will be forfeited by indifference to scholastic work or by disregard of rules of the University.
5. Scholarships awarded to preparatory schools and to high schools of Baltimore and Washington shall be given on recommendation of the principals direct to the University. Recipients of preparatory school scholarships must be qualified to enter the freshman class.
6. Applicants from Charles, St. Mary's, and Calvert counties may take one of the non-collegiate curriculums or, if entering from another institution, may take one of four-year curriculums leading to a degree.

Fellowships

The University also offers a number of fellowships. These may be given either to its own graduates or the graduates of other colleges who desire to pursue courses in the Graduate School leading to advance degrees. Fellow-

ships are available in the College of Agriculture, College of Engineering and College of Arts and Sciences. These fellowships are worth from \$500 to \$720 per year.

Industrial Scholarships

There are available each year, as they become vacant, a number of industrial scholarships, in which students receive compensation for attending to certain prescribed duties, such as waiting on the tables in the dining hall, janitor service in the dormitory, and postmaster. Students may frequently earn enough in this way to cover board and lodging.

HONORS AND AWARDS

Honorable mention is given to students for excellence in undergraduate work in the upper one-fifth of each college as follows: The upper one-tenth is given first honors, and the rest second honors, provided that the student's course average is B.

Debating and Oratory

An annual debate is held each year in January between the Poe and New Mercer Literary societies for the "President's Cup," given by Dr. H. J. Patterson.

A gold medal is awarded by the Alumni Association each year to the best debater in the University, the test being a debate between picked teams from the two literary societies.

The Oratorical Association of Maryland Colleges, consisting of Washington College, Western Maryland College, St. John's College, and University of Maryland offers each year gold medals for first and second places in an oratorical contest that is held between representatives of the four institutions.

Athletics

The class of 1908 offers annually to "the man who typifies the best in college athletics" a gold medal. The medal is given in honor of former President R. W. Silvester and is known as "The Silvester Medal for Excellence in Athletics."

The Military Medal

The class of 1899 offers each year a gold medal to the member of the battalion who proves himself the best drilled soldier. The medal is awarded after an individual drill by each of the contestants.

The Company Sword

The class of 1897 awards annually to the captain of the best drilled company of the University battalion a silver mounted sword.

The Citizenship Prize

A gold medal is presented annually by H. C. Byrd, a graduate of the class of 1908, to the member of the senior class who during his collegiate career has nearest typified the model citizen and who has done most for the general advancement of the interests of the University.

The Goddard Medal

The James Douglas Goddard Memorial Medal is awarded annually to the man from Prince George's County making the highest average in his studies and who at the same time embodies the most manly attributes. The medal is given by Mrs. Annie K. Goddard James of Washington, D. C.

ORGANIZATIONS

The Alumni Association

The Alumni Association is an organization composed of alumni of the University. This Association has an office at the University and has several branch associations. It publishes a monthly paper, The State University Alumnus. The Association is active in legislative and other measures for the support of the University and is represented on the Board of Regents and on the committee which controls athletics by four members, two on each.

The Student Assembly

The Student Assembly is composed of all the students and is organized to carry out a system of student self-government. The Student Executive Council is the executive committee of the Student Assembly and acts in cooperation with the faculty in the management of student affairs.

The Dramatic Club

The Dramatic Club is organized for the purpose of presenting at least one play each year. It is made up of students who have had experience in this work since coming to the University or in high school.

Fraternities and Sororities

There are at the University four national fraternities, Kappa Alpha, Sigma Nu, Sigma Phi Sigma, Phi Alpha; two local fraternities, Nu Sigma Omicron, Sigma Tau Alpha; two local sororities, Sigma Delta, Lambda Tau.

Societies

Two literary societies are maintained by the students, the Poe and New Mercer. These hold weekly meetings at which regular programs are presented.

The Liebig Chemical Society is made up of students specializing in chemistry. Special lectures by students and specialists in certain branches of chemistry and open discussions of various chemical questions are featured.

The Engineering Society is composed of students in the College of Engineering.

The Agricultural Club is organized according to special interests into the Horticultural Society, the Agronomy Society, and the Animal Husbandry Society.

Programs are offered in the Engineering Society and Agricultural Club similar to that of the Liebig Chemical Society, except that the subjects pertain to engineering or agriculture.

Le Cercle Francais

This club was organized in 1919 by the Department of French. Its membership is composed of the faculty of the department, students pursuing courses in French, and others interested in the study of that language. The aims of the club are to awaken a live interest in French literature, culture, history and customs, and to build up an ease in the use of the language. Although fostered by the College of Arts and Sciences, this club is not restricted to students enrolled therein, but is open to all who are interested in things French.

Clubs

The Rifle Club is affiliated with the National Rifle Association and engages in matches with other colleges and rifle organizations.

The Chess and Checker Club is organized for the promotion of these games among those that engage in them. Annual tournaments are conducted for which gold medals are awarded.

The County Clubs are organizations of students from the same counties. The Baltimore City Club and District of Columbia Club are organizations of the same nature.

The Rossbourg Club is the student organization which has charge of most of the formal dances of the students. This club is open to all students.

The Keystone Club came into being when a score of men from the "Keystone State" found each other on the campus. All Pennsylvanians are eligible. Its aim is to promote a feeling of interest and good fellowship among the students from Pennsylvania.

The Christian Associations

The Young Men's and Young Women's Christian Associations are organized to be of general service to the students. They perform important functions in matters of obtaining employment for worthy students, in receiving new students, and in helping to maintain generally a high morale and state of good fellowship in the student body.

Student Publications

A weekly five-column newspaper, *The Diamondback*, is published by the students. Besides this the members of the junior class publish an annual book *Terra Mariae*. Both publications reflect the news and atmosphere of general college life.

ADMINISTRATION

The government of the University is vested by law primarily in a Board of Regents, consisting of nine members appointed by the Governor for terms of nine years. The administration of the University is vested in the President. The University Council, composed of the President, the Assistant to the President, the Director of Agricultural Experiment Station, and Director of the Agricultural and Home Economics Extension Service, and the Deans acts

as an advisory board to the President on all phases of University work. The faculty of each college or school constitutes a faculty council which passes on all questions that have exclusive relationship to the unit represented.

For purposes of administration and coordination of similar groups of studies, the following educational organizations are in effect:

- College of Agriculture.
- College of Engineering.
- College of Arts and Sciences.
- School of Medicine.
- The Law School.
- School of Dentistry.
- School of Pharmacy.
- College of Education.
- College of Home Economics.
- The Graduate School.
- The Summer School.
- Department of Military Science and Tactics.
- Department of Physical Education and Recreation.

The College of Agriculture offers curricula in: (1) General Agriculture; (2) Agronomy; (3) Farm Management; (4) Geology and Soils; (5) Pomology; (6) Vegetable Gardening; (7) Floriculture; (8) Landscape Gardening; (9) Economic Entomology; (10) Two-Year Agriculture; (11) Animal Husbandry; (12) Dairy Husbandry.

The College of Education offers curricula in: (1) Agricultural Education; (2) Home Economics Education; (3) Industrial Education; (4) General Education.

The College of Engineering offers curricula in: (1) Civil Engineering; (2) Mechanical Engineering; (3) Electrical Engineering; (4) Highway Engineering; (5) Sanitary Engineering.

The Graduate School offers courses in any of the subjects in which a graduate may desire to obtain an advanced degree. The Graduate School consists of all students taking graduate work in the various departments. Those qualified to supervise graduate work in the various departments constitute the faculty of the Graduate School, presided over by a research specialist designated as Dean.

The College of Home Economics offers a curriculum in which may be obtained the general principles of home economics, a knowledge of home economics for teaching purposes, or a specialized knowledge of particular phases which deal with the work of the dietitian or institutional manager.

The College of Arts and Sciences offers curricula with majors in: (1) Ancient Languages and Philosophy; (2) Economics; (3) English Language, Literature and Journalism; (4) General Science; (5) History and Political Science; (6) French, German, or Spanish; (7) General, Industrial, and Physical Chemistry; (8) Public Speaking with reference to Special Professions; (9) Zoology; studies also are offered in Music and Library Science.

The Department of Military Science and Tactics has charge of the work of the Reserve Officers' Training Corps unit established by the War Department. During the first two years of the student's stay at the University he is required to take the Basic R. O. T. C. courses. During his junior and senior

years he may elect three credit hours in Reserve Officers' Training Corps each term.

The Department of Physical Education and Recreation works in close co-operation with the military department and supervises all physical training, general recreation, and intercollegiate athletics.

The Summer School of six weeks offers courses in subjects given during the regular session of the University, with the exception of Medicine, Dentistry, Pharmacy, and Law, and in special subjects, such as school administration, classroom management and principles of secondary education for high school and elementary school teachers. Certain courses given in the Summer School are of collegiate grade and may be counted toward the bachelor's degree. Advanced courses may count toward the master's degree.

General matter having relationship to offerings of the School of Medicine and the Schools of Pharmacy and Dentistry, and the School of Law will be found elsewhere.

EXTENSION AND RESEARCH

Agriculture and Home Economics

The agricultural and home economics extension service of the University, in co-operation with the United States Department of Agriculture, carries to the people of the State through practical demonstrations conducted by specialists of the College of Agriculture and county agents, the results of investigations in the fields of Agriculture and Home Economics. The organization consists of the administrative forces, including the director, assistant director, specialists and clerical force, the county agricultural demonstration agents, and the home demonstration agents in each county and in the chief cities of the State. The county agents and the specialists jointly carry on practical demonstrations under the several projects in the production of crops or in home-making, with the view of putting into practice on the farms of the State improved methods of Agriculture and Home Economics that have stood the test of investigation, experimentation, and experience. Movable schools are held in the several counties. At such schools the specialists discuss phases of Agriculture and Home Economics in which the people of the respective counties are especially interested.

The work of the Boys' Agricultural Clubs is of especial importance from an educational point of view. The specialists in charge of these projects, in co-operation with the county agricultural agents and the county school officers and teachers, organize the boys of the several communities of the county into agricultural clubs for the purpose of teaching them by actual practice the principles underlying agriculture. The boys hold regular meetings for the discussion of problems connected with their several projects and for the comparison of experiences. Prizes are offered for the stimulation of interest in the work.

The Home Economics specialists and agents organize the girls into clubs for the purpose of instructing them in the principles underlying canning,

drying, and preserving fruits and vegetables, cooking, dressmaking and other forms of Home Economics work.

Educational value of the demonstrations, farmers' meetings, movable schools, clubs, and community shows is incalculable. They serve to carry the institution to the farmer and to the home-maker.

General Extension

This phase of the extension service of the University is conducted in co-operation with the United States Bureau of Education, and is intended to make the general branches of educational curriculum of greater service to the people of the State.

Agricultural Experiment Station

Vitally associated with the extension service is the experimental work in agriculture.

In 1847 an act was passed making provision for a State laboratory in which the application of chemistry to agriculture was to be undertaken. In 1858 experimentation was undertaken on the College farm. After two or three years this work was interrupted by the general financial distress of the time and by the Civil War. In 1888, under the provisions of the Hatch Act of the preceding year, the Agricultural Experiment Station was established.

This act states the object and purpose of the experiment station as follows:

That it shall be the object and duty of said Experiment Stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

Prior to the establishment of the experiment stations there was practically no agricultural science in this country. The work done by these institutions during the past quarter of a century has given a science of agriculture to teach, and laid a broad foundation for development.

The placing of agricultural demonstrations and extension work on a national basis has been the direct outgrowth of the work of the experiment station.

The students of the University, taking courses in the College of Agriculture, are kept in close touch with the investigations in progress.

The Eastern Branch

The Eastern Branch of the University of Maryland is located at Princess Anne, Somerset County. It is maintained for the education of negroes in agriculture and mechanic arts.

INCOME

The University is supported entirely by funds appropriated for its use by the State and Federal Government. State appropriations prior to the present biennium were very meager but with the awakening of the people to the importance of the institution adequate appropriations to meet all needs are expected. The appropriations from the Federal Government are derived from the original Land Grant Act, from the second Morrill Act, the Nelson Act, the Smith-Hughes and Smith-Lever Acts, and the Hatch and Adams Acts. The University, with the exception of its professional schools in Baltimore, charges no tuition and consequently has no funds from that source.

ADMISSION

General Statement

An applicant for admission to any of the colleges or schools of the University must be at least sixteen years of age.

Women are admitted to all of the departments under the same conditions and on the same terms as men.

Students may be admitted at the beginning of any term, but should enter, if possible, at the beginning of the fall term (in 1921, September 19). Students can seldom enter the College of Engineering of the Schools of Medicine, Law, Pharmacy or Dentistry to advantage except at the opening of the school year in September, or October, as the case may be.

In general the requirements for admission to the freshman class are the same as those prescribed for graduation by the approved high schools of Maryland. A candidate for admission by *certificate* must be a *graduate* of an approved high school or other accredited school. Applicants who have not been graduated from accredited schools must pass entrance examinations designated by the University Entrance Board.

Number of Units Required

At least fifteen units of high school or other secondary school work in acceptable subjects must be offered by every candidate.

A unit represents a year's study in any subject in a secondary school and constitutes approximately a quarter of a full year's work. It presupposes a school year of 36 to 40 weeks, recitation periods of from 40 to 60 minutes, and for each study four or five class exercises a week. Two laboratory periods in any science or vocational study are considered as equivalent to one class exercise.

Required and Elective Subjects

* Prescribed Units.

English.....	3
† Mathematics.....	2
Science.....	1
History.....	1
Total.....	7

*In addition the prescribed units listed, two years of any one foreign language are required for admission to the pre-medical curriculum.

†An additional unit of mathematics is required for admission to the College of Engineering. The additional unit should include Algebra, $\frac{1}{2}$, and Solid Geometry, $\frac{1}{2}$.

Elective Subjects

To be selected from the following subjects:

Agriculture	Geology
Astronomy	History
Biology	Home Economics
Botany	Industrial Subjects
Chemistry	Language
Civics	Mathematics
Commercial Subjects	Physical Geography
Drawing	Physics
Economics	Physiology
English	Zoology
General Science	

Methods of Admission

The credits required for admission to the undergraduate departments may be secured as follows:

- By certificate
- By examination
- By transfer from another university or college of recognized standing.

(A) ADMISSION BY CERTIFICATE

Blank certificates for students wishing to enter the University by certificate from an approved high school or other secondary school may be had of the Registrar. They should be obtained early and filled out and sent to the Registrar for approval as soon as possible after the close of the high school in June.

Accredited Schools

The State Board of Education prepares a list of approved high schools each year. The University accepts graduates from these schools without question. Other preparatory schools may be visited by the high school inspector upon request.

Entrance credit will also be accepted on certificate from the following sources:

- From schools accredited by the Association of Colleges and Preparatory Schools of the Southern States.
- From schools accredited by the North Central Association of Colleges and Secondary Schools.
- From schools accredited to the state universities which are included in the membership of the North Central Association of Colleges and Secondary Schools.
- From schools approved by the New England College Entrance Certificate Board.
- From high schools and academies registered by the Regents of the University of the State of New York.
- From College Entrance Examination Board of New York.

- (7) From high and preparatory schools on the accredited list of other state boards of education where the requirements for graduation are equivalent to the standard set by the Maryland State Board of Education.
- (8) From the state normal schools of Maryland and other state normal schools having equal requirements for graduation.

(B) ADMISSION BY EXAMINATION

I. The University Entrance Examinations.

The University entrance examinations are given at the University in College Park immediately before the opening of the fall term in September. Students who need to take the examinations should make all necessary preparations several weeks in advance. These examinations cover all the subjects required or accepted for entrance as outlined.

An examination fee of \$5.00 is charged for entrance examinations.

II. The Examinations of the College Entrance Examination Board.

The certificate of the College Entrance Examination Board, showing a grade of 60 per cent or higher will be accepted for admission in any elective subject. These examinations will be held only once a year beginning the third Monday in June.

All applications for examination must be addressed to the Secretary of the College Entrance Examination Board, 431 West 117th Street, New York, N. Y., and must be made upon a blank form to be obtained from the Secretary of the Board on application.

Applications for examinations at points in the United States east of the Mississippi River and at points on the Mississippi River, must be received by the Secretary of the Board at least three weeks in advance of the examinations; applications for examinations at points in the United States west of the Mississippi River must be received at least four weeks in advance of the examinations; and applications for examinations outside of the United States must be received at least six weeks in advance of the examinations.

Applications received later than the time specified will be accepted when it is possible to arrange for the admission of the candidate concerned, but only on payment of \$6.00 in addition to the usual fee.

The examination fee is \$6.00 for all candidates examined at points in the United States, and \$20.00 for all candidates examined outside of the United States. The fee, which cannot be accepted in advance of the application, should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

III. The New York Regent's Examinations.

Credit will be accepted, also from the examinations conducted by the Regents of the University of the State of New York.

(C) ADMISSION BY TRANSFER OF ENTRANCE CREDITS FROM OTHER COLLEGES OR UNIVERSITIES

A person who has been admitted to another college or university of recognized standing will be admitted to this University by presenting a certificate of honorable dismissal from the institution from which he comes and an official

statement of the subjects upon which he was admitted to such institution, provided that the work appears to be equivalent to that required by the University of Maryland.

Students intending to transfer to the University of Maryland should have sent an official statement of their college credits to the Registrar.

Special Requirements of Colleges and Schools

Requirements for admission to the Schools of Medicine, Law, Pharmacy and Dentistry will be found elsewhere under chapters given to these schools.

ADMISSION TO ADVANCED STANDING

A student coming from a standard college or university may secure advanced standing by presenting a statement of his complete academic record certified by the proper officials. This statement must be accompanied by a set of secondary school credentials presented for admission to the college or university. Full credit is given for work done in other institutions when found to be equivalent in extent and quality to that required at this University. An applicant may request examination for advanced credit in any subject. In case the character of a student's work in any subject is such as to create doubt as to the quality of that which preceded, the University reserves the right to revoke at any time any credit assigned on certificate.

Regardless of the amount of advanced standing a student may secure, in no case will he be given the baccalaureate degree with less than one year of resident work.

Unclassified Students

Mature persons who have had insufficient preparation to pursue any of the four-year curricula may, with the consent of the Committee on Courses, matriculate for such subjects as they are fitted to take. Such students, however, will be ineligible for a degree until they have satisfied the entrance requirements and completed an approved four-year course of study.

Graduation, Degrees, Diplomas and Certificates

All undergraduate four-year courses lead to the degree of Bachelor of Science or Bachelor of Arts. The total requirements for graduation vary, according to the type of work in the different colleges, from 204 to 220 term credit hours. A term credit hour is one lecture or recitation each week for one term of twelve weeks; two or three hours of laboratory or field work are counted equivalent to one lecture or recitation. All practical work is scheduled for two or three hours, depending upon the nature of the work. To find full information of requirements, the student should refer to the description of the school in which interested.

Candidates are recommended for graduation after they have completed the prescribed course of study, including all the required work and enough electives to total the required credit hours.

The University confers the following degrees: Bachelor of Arts, Bachelor of Science, Master of Arts, Master of Science, Doctor of Philosophy in Arts, Doctor of Philosophy in Science, Civil Engineer, Mechanical Engineer, Elec-

trical Engineer, Bachelor of Laws, Doctor of Medicine, Doctor of Dental Surgery, Graduate in Pharmacy and Pharmaceutical Chemist.

Degrees are not granted to the students in the two-year curricula, but at graduation time certificates are awarded.

FEES AND EXPENSES

Make all checks payable to University of Maryland for exact amount of bills for term charges.

The charges for each term must be paid at the beginning of the term. Students will not be admitted to classes until payment has been made or until satisfactory arrangements have been made for deferring payment.

No charge is made for resident students for tuition in any of the colleges or schools except Law, Medicine, Dentistry and Pharmacy.

The estimated average annual expenses of undergraduates at College Park are as follows:

	<i>First Term</i>	<i>Second Term</i>	<i>Third Term</i>	<i>Total for Year</i>
Fixed charges.....	\$20.00	\$20.00	\$20.00	\$60.00
*Athletic fee.....	10.00			10.00
Damage deposit.....	10.00			10.00
Board (36 weeks @ \$6.75).....	87.75	81.00	74.25	243.00
†Lodging (38 weeks @ \$1.85).....	24.05	24.05	22.20	70.30
Laundry (36 weeks @ 60c).....	7.80	7.20	6.60	21.60
Totals.....	\$159.60	\$132.25	\$123.05	\$414.90

*These fees constitute a fund which is collected from all students in the university at College Park for maintenance of athletics and is turned over in toto to the Athletic Board for disbursement.

†Students not boarding at the University dining hall may obtain rooms in the Dormitory, if available, at the rate of \$2.50 per week. Those who board at the dining hall are supplied with rooms first.

Non-residents, except from the District of Columbia, will be charged a fee of \$10.00 per term or \$25.00 per year if paid in advance.

Students taking pre-Medical work will be charged a special fee of \$10.00 per term.

The above does not take into consideration the cost of books, supplies and personal needs. This depends largely on the tastes and habits of the individual student. Books and supplies average about \$40.

The fixed charges made to all students are a part payment of overhead expenses, such as janitor services, hospital and doctor's fees, general laboratory fees, library, physical training, etc.

Board, lodging and other charges may vary from term to term, but every effort will be made to keep expenses as low as possible.

The damage fee is to cover breakage, loss of library books, and injury to which cannot be charged directly against any student. Damage to university property will be charged pro rata to the whole student body unless the offender is known. Any unused part of this fee is returned to the student upon withdrawal or at the close of the year.

In case of illness requiring a special nurse or special medical attention the expense must be borne by the student.

Board and lodging may be obtained at boarding houses or in private families if desired.

Students rooming outside the University may obtain board and laundry at the same rates as those living in the dormitories.

Day students may get lunch at nearby lunch rooms.

All the University property in possession of the individual student will be charged against him, and the parent or guardian must assume responsibility for its return without injury other than results from ordinary wear.

All students assigned to dormitories are required to provide themselves with one pair of blankets for single bed, two pairs of sheets for single bed, four pillow cases, six towels, one pillow, two laundry bags, one broom and one waste basket.

Special Fees

Bacteriology Laboratory Fee.....	\$2.00
Fee for special condition examination.....	1.00
Fee for changes in registration after first week of term..	1.00
Fee for failure to register within seven days after opening of term.....	2.00
Diploma fee payable prior to graduation.....	5.00
Certificate fee payable prior to graduation.....	3.00

No diploma will be conferred upon, nor any certificate granted to, a student who is in arrears in his accounts.

Graduate Fees

Each graduate student is subject to a matriculation fee of \$10.00, a fixed charge of \$1.00 per term credit hour and a diploma fee of \$10.00.

Withdrawals

When a student desires to withdraw from the University he is required to secure from his Dean a written approval, which must be presented to the Registrar. **Charges for full time will be continued against him unless this is done.**

Students withdrawing before the end of any term will be charged \$7.00 per week for board and \$2.00 per week for lodging for the time during the term preceding their withdrawal.

Refunds

No fixed charge will be refunded.

No laboratory fee will be refunded after the middle of the term.

The low charge for board at the dining hall is made possible only by the use of the term basis in figuring costs. The overhead is fixed for the term and no refunds can be made for short absences without a loss to the dining hall and to the students who eat there. Therefore, no refunds will be made except in case of withdrawal or prolonged absence due to sickness or unavoidable cause.

\$1.50 per hour per term

The Fees and Expenses for Schools located in Baltimore are:

	Matriculation Fee	Tuition	Laboratory
Medical School.....	\$ 5.00 per term.....	\$210.00 per year.	
Dental School.....	5.00 per year.....	175.00 per year.....	\$5.00
Pharmacy School.....	5.00 per year.....	140.00 per year.....	5.00
Law School.....	10.00 per year.....	100.00 per year.	

There are no dormitories connected with Baltimore Schools. The average cost of living per year in that city is \$600.

ADMINISTRATIVE PROCEDURE

Date of Registration and Penalty for Late Registration

Registration for the fall term takes place during the first two days of the term. Students register for the second term before leaving for their Christmas holidays and for the third term during the last two weeks of the winter term.

After seven days from the opening of a term fees are imposed for a change of registration or for late registration.

Students, who for any reason are more than seven days late in registering, must secure permission from the instructors in charge for admission to courses. Such permission must be given in writing to the student's dean before course cards will be issued.

Physical Examination and Physical Training

All students who enter the University undergo a physical examination by the physician in charge. This is conducted in co-operation with the Military Department under the direction of which most of the work in physical training is done. The examination also is a measure for protecting the health of the student body.

Maximum and Minimum Schedule

The prescribed number of credit hours that a student ordinarily may carry ranges from 15 to 19. No student may register for less than the ordinary number without permission from his dean.

A student who obtains an average grade of "B" may, with the permission of his dean, be allowed to carry such additional courses as may be scheduled. This privilege is forfeited if the student's average grade falls below "B".

No regular student working for a degree may carry less than 12 credit hours.

Examinations

No final examinations are given. At least two unannounced tests are given in each course per term. The final grade is derived by combining the average daily grade and the average test grades.

Grading System

Students are graded with the following marks: A, B, C, D, E, and F. A, B, C, and D are passing; E represents a condition and F a failure.

Student Advisory and Honor System

A Committee comprising five members of the faculty acts as the advisory board to the Students' Executive Council of the Students' Assembly. The Students' Executive Council, with the aid of the Advisory Board manages all student affairs. The Honor System is in effect for all students, and each student always is on his honor to live up to the highest principles of democratic government.

The Students' Assembly

All students assemble in the Auditorium at 11:20 o'clock every Wednesday. Every other Wednesday is turned over to the students to transact business that concerns the whole student body. The Department of Public Speaking arranges the programme for the remaining Wednesdays. Noteworthy speakers from various parts of the United States are called upon to talk to the students.

General Suggestions to New Students

Candidates for admission to the University should correspond with the Registrar at College Park, who in turn will supply them with the necessary forms for transferring preparatory credits. It is advisable for prospective students to dispose of the preliminaries early in the year in order to prevent disappointments. Often a student comes to the University without taking the preliminary steps only to find that he does not have enough credits to enter. The Registrar is always glad to advise with the students concerning their preparations. The Registrar sends out a general statement of the procedure for new students to follow after they are duly admitted to the University.

The College of Agriculture

The teaching of a rational, practical system of farming is the primary aim of the College of Agriculture. The permanent prosperity of rural citizens is in direct proportion to the producing capacity of the land. The most successful farmer is the one who can produce a maximum quantity per acre of the best quality of agricultural products at a minimum cost and dispose of them in the markets at the best advantage. The modern farmer must know the kinds of plants to grow and how to improve them; how to maintain orchards, gardens, and attractive surroundings; something of the soil, its cultivation and conservation of fertility; how to combat plant diseases and insect pests; the selection, breeding, and feeding of live stock; the marketing of farm products; modern farm buildings, farm equipment and conveniences of the home; and finally how to be leaders and promote good citizenship in rural life.

The curricula are planned to give the student a general knowledge of all phases of agriculture and related sciences, but at the same time afford an opportunity to specialize along the lines in which he is particularly interested. The plan provides for those who wish to take up professions such as teaching, research, and county agent work, as well as farming.

Graduation, Degrees and Certificates

The College of Agriculture confers the degree of Bachelor of Science.

Two hundred and ten term credit hours are required for graduation. The courses required vary according to the departments in which the student elects to specialize.

The non-collegiate, two-year curriculum leads to a Certificate in Agriculture.

DEPARTMENTS

The College of Agriculture includes the following departments: (1) Agronomy, (including Forage Crops, Grain Crops, Genetics); (2) Agricultural Education (see College of Education); (3) Animal Husbandry; (4) Animal Pathology and Veterinary Medicine; (5) Bacteriology and Sanitation; (6) Dairy Husbandry; (7) Entomology and Bee Culture; (8) Farm Equipment; (9) Farm Management; (10) Forestry; (11) Horticulture (including Pomology, Vegetable Gardening, Landscape Gardening, and Floriculture); (12) Plant Pathology; (13) Plant Physiology and Bio-chemistry; (14) Poultry Husbandry; (15) Soils.

AGRICULTURAL EXPERIMENT STATION

The College of Agriculture works in cooperation with the Agricultural Experiment Station. Most of the subject matter in agricultural courses is tested by the station or furnished as original from its researches. Methods and material which are valuable in one state are often worthless in another, and the station makes it a point to find what is best for the State of Maryland.

The general farm, orchards, gardens, and herds at the Experiment Station are available for laboratory and class use by the college.

FELLOWSHIPS

Graduate Fellowships which carry remunerations of \$500 to \$1,000 yearly are available to graduate students. Students who hold these fellowships spend certain time assisting in classes and laboratories. The rest of the time may be used for original investigation and assigned study, the time required for a degree depending upon the nature of the fellowship held.

FARM PRACTICE

Students without farm experience do not, as a rule, secure full benefit from any of the agricultural courses. A committee has been appointed for the purpose of assisting all students coming to the college without farm training to obtain a fair knowledge of actual farm practice. Some time during each year the committee will examine each member of the freshman class and any upper-classmen who have not already satisfied the farm practice requirements.

All students must pass a satisfactory farm practice examination before they will be allowed to enter their senior year. Those not able to pass this examination will be required to spend at least three months on a farm selected by or having the approval of the committee. If the student has had no farm experience whatsoever before entering college, he may be required to spend six to nine months on a farm.

The committee reserves the right also to call on all students so placed for written reports showing the experience gained while on these farms.

CURRICULA IN AGRICULTURE

All students registered for Agriculture take the same work in the freshman and sophomore years, except those registering for Landscape Gardening, Floriculture and Animal Pathology and Veterinary Medicine. At the end of the sophomore year they may elect to specialize along the lines in which they are particularly interested.

The First Two Years:

FRESHMAN YEAR	Term:	I	II	III
Gen'l Chem. and Qual. Analysis (Gen. Chem. 101-103) ..		4	4	4
*General Zoology (Zool. 101-102) ..		4	2	..
†General Botany (Bot. 101) ..		..	2	4
Composition and Rhetoric (Eng. 101-103) ..		3	3	3
Public Speaking (Pub. Sp. 101-103) ..		1	1	1
(Elect one of the following groups)				
Group A				
Cereal Crops (Agron. 101) ..		4	..	..
Animal Husbandry (A. H. 101) ..		..	4	..
Elementary Vegetable Gardening (Hort. 111) ..		..	..	4
Group B				
Language ..		3	3	3
Group C				
Mathematics ..		3	3	3
Basic R. O. T. C. (M. I. 101) ..		2	2	2

*Repeated during second half year.

†Offered also during first half year.

SOPHOMORE YEAR

	Term:	I	II	III
Plant Physiology (Plt. Phys. 101-102) ..		..	4	3
General Geology (Geol. 101) ..		3	..	..
Principles of Soil Management (Soils 101-102) ..		..	3	3
Organic Chemistry (Org. Chem. 103-104) ..		3	3	..
General Entomology (Ent. 101) ..		..	..	3
Feeds and Feeding (A. H. 102a-102b) ..		3	3	..
Principles of Dairying (D. H. 101) ..		..	..	4
Forage Crops (Agron. 102) ..		..	..	4
Elementary Pomology (Hort. 101) ..		4	..	..
Physics (Physics 107-108) ..		3	3	..
Basic R. O. T. C. (M. I. 102) ..		2	2	2

AGRONOMY

The curriculum in agronomy aims to give the student the fundamental principles of crop production. Special attempt is made to adapt the work to the young man who wishes to apply scientific principles of field crop culture and improvement on the farm. At the same time enough freedom is given the student in the way of electives so that he can register for subjects which might go along with the growing of crops on his particular farm. A student graduating from the course in agronomy should be well fitted for general farming, investigational work in the State or Federal Experiment Stations, or county agent work.

The Agronomy Department has a large, well equipped laboratory in the new Agricultural Building and a greenhouse for student use, besides free access to the Experiment Station fields and equipment.

CURRICULUM

JUNIOR YEAR

	Term:	I	II	III
Grading Farm Crops (Agron. 103) ..		..	3	..
Genetics (Agron. 106) ..		..	4	..
General Bacteriology (Bact. 101-102) ..		3	3	..
Soil Bacteriology (Soils 107) ..		..	..	3
General Plant Pathology (Plt. Path. 101) ..		3	..	..
Soil Fertility and Fertilizers (Soils 105) ..		..	..	3
Plant Anatomy (Morph. and Myc. 101) ..		3	..	..
Agricultural Chemistry (Ind. Chem. 101) ..		..	..	4
Technical Writing (Eng. 104-106) ..		2	2	2
Elements of Economics (Econ. 101-101) ..		3	3	..
Agricultural Economics (A. E. 101) ..		..	..	3
Electives ..		3	2	2

SENIOR YEAR	Term:	I	II	III
Crop Breeding (Agron. 108).....		3	..	..
Methods of Crop Investigations (Agron. 109).....		..	..	3
Cropping Systems and Methods (Agron. 107).....		..	2	..
Seminar (Agron. 110-111).....		..	1	1
Soil Survey and Classification (Soils 106).....		3	..	..
Farm Management (F. M. 101-102).....		3	3	..
Farm Machinery (F. E. 101).....		3	..	..
Grain Judging (Agron. 104).....		..	1	..
Drainage (F. E. 108).....		..	..	3
Tuber and Root Crops (Hort. 112).....		3	..	..
Electives.....		2	10	10

AGRICULTURAL EDUCATION

The Department of Agricultural Education was organized primarily to train students who are preparing to teach agriculture in secondary schools. In addition to regular entrance requirements of the University, students electing to specialize in Agricultural Education must present evidence of having acquired adequate farm experience after reaching the age of fourteen years.

Students must arrange their work so that approximately forty per cent will be spent on technical agriculture, twenty-five per cent on scientific subjects twenty per cent on subjects of a general educational character and from twelve to fifteen per cent on subjects pertaining to professional education.

(For detailed description of the curriculum in agricultural education see the College of Education.)

ANIMAL HUSBANDRY

The courses in Animal Husbandry are organized with the idea of equipping men as owners, superintendents, or managers of general or special live stock farms. Special attention is given to the care, feeding, breeding and management of live stock and to the economics of the live stock industry. Opportunity for specialization is offered to those who may desire to become instructors or investigators in Animal Husbandry.

Herds of cattle and swine are maintained at the University. In addition, there are available for use in instruction, the herds of live stock owned by the Federal Bureau of Animal Industry at Beltsville, Maryland. Through the courtesy of Maryland breeders, some private herds are also available for inspection and instruction.

CURRICULUM

JUNIOR YEAR	Term:	I	II	III
Technical Writing (Eng. 104-106).....		2	2	2
Elements of Economics (Econ. 101-102).....		3	3	..
Agricultural Economics (A. E. 101).....		..	..	3
Anatomy and Physiology (V. M. 101).....		3	..	..
General Bacteriology (Bact. 101-103).....		3	3	3
Management Dairy Young Stock (A. H. 103).....		..	..	3
Swine Production (A. H. 105).....		3	..	..
Beef Production (A. H. 107).....		..	3	..
Sheep Production (A. H. 108).....		..	..	3
Principles of Breeding (A. H. 104).....		..	..	4
Electives.....		3	6	..

SENIOR YEAR	Term:	I	II	III
Farm Management (F. M. 101-102).....		3	3	..
Horse and Mule Production (A. H. 109).....		3	..	..
Animal Diseases (V. M. 102).....		..	..	4
Nutrition (A. H. 119).....		..	..	3
Animal Genetics (A. H. 118).....		3	..	..
Farm Machinery (F. E. 101).....		3	..	..
Gas Engines (F. E. 102).....		..	3	..
Tractors (F. E. 103).....		..	..	3
Seminar (A. H. 114).....		..	..	1
Electives.....		5	11	6

ANIMAL PATHOLOGY AND VETERINARY MEDICINE

The increasing need of veterinarians thoroughly trained in animal husbandry as well as in medicine and surgery makes it necessary to give such instruction as will fit the student to care for valuable live stock and intelligently advise their owners in matters pertaining to successful animal husbandry. The six years course leading to the degrees of B. S. and D. V. M., as outlined below, should meet this need.

Only the first two years of this curriculum, as outlined, will be given during 1921-22.

CURRICULUM

FRESHMAN YEAR	Term:	I	II	III
Gen. Chem. and Qual. Anal. (Gen. Chem. 101-103).....		4	4	4
General Zoology (Zool. 101-102).....		4	4	..
General Botany (Bot. 101).....		..	..	4
Composition and Rhetoric (Eng. 101-103).....		3	3	3
Public Speaking (Pub. Sp. 101-103).....		1	1	1
Cereal Crops (Agron. 101).....		4	..	..
Animal Husbandry (A. H. 101).....		..	4	..
Elementary Vegetable Gardening (Hort. 111).....		..	..	4
Basic R. O. T. C. (M. I. 101).....		2	2	2

SOPHOMORE YEAR	Term:	I	II	III
Beef Production (A. H. 107).....		..	3	..
Management of Dairy Young Stock (A. H. 103).....		..	..	3
General Geology (Geol. 101).....		3	..	..
Soils (Soils 101-102).....		..	3	3
Organic Chemistry (Gen. Chem. 112-113).....		3	3	..
Entomology (Zool. 107).....		..	..	3
Feeds and Feeding (A. H. 102a-102b).....		3	3	..
Principles of Dairying (D. H. 101).....		..	..	4
Forage Crops (Agron. 103).....		..	..	4
Elementary Pomology (Hort. 101).....		4	..	..
Physics (Physics 107-108).....		3	3	..
Basic R. O. T. C. (M. I. 102).....		2	2	2

BACTERIOLOGY AND SANITATION

The present organization of this Department was brought about with two main purposes in view. The first is to give all the students of the University an opportunity to obtain a general knowledge of the subject. This is of prime importance, as Bacteriology is a basic subject and of as much fundamental importance as Physics or Chemistry. The second purpose, and the one for which this curriculum was designed, was to fit students for positions along bacteriological lines. This includes Dairy Bacteriologists and Inspectors; Soil Bacteriologists; Federal, State, and Municipal Bacteriologists for Public Health positions; Research positions; Commercial positions, etc. At present, the demand for individuals qualified for this work is much greater than the supply, and with the development of the field, this condition is bound to exist for some time.

The Staff of the Department is made up of well trained and experienced men. The equipment and facilities for carrying on the work are excellent.

CURRICULUM

JUNIOR YEAR	Term:	I	II	III
General Plant Pathology (Plt. Path. 101).....		3	..	..
General Bacteriology (Bact. 101-103).....		3	3	3
Mycology (Morph. and Mycol. 106).....		..	..	3
Physiological Chemistry (Bio. Chem. 101).....		4	..	..
Technical Writing (Eng. 104-106).....		2	2	2
General Entomology (Ent. 101).....		..	2	..
Economics (Econ. 101-102).....		3	3	..
Agricultural Economics (A. E. 101).....		..	..	3
Electives.....		2	5	6

SENIOR YEAR	Term:	I	II	III
Dairy Bacteriology (Bact. 104-106).....		3	3	3
Advanced Bacteriology (Bact. 107-109).....		3	3	3
Market Milk (D. H. 107).....		3	..	..
Milk Testing (D. H. 108).....		..	3	..
Soil Bacteriology (Soils 107).....		..	..	3
Seminar (Bact. 117-119).....		1	1	1
Farm Management (F. M. 101-102).....		3	3	..
Electives.....		4	4	7

DAIRY HUSBANDRY

The courses in Dairy Husbandry are so organized as to give the student a working knowledge of the basic principles underlying successful dairy production, market milk, dairy manufacturing and marketing. A dairy herd is maintained for experimental purposes, as well as for the purpose of teaching the care, feeding and management of dairy cattle. Graduates from these courses should be fitted to take up dairy farming, teaching or experiment station work. Graduate courses are designed to meet the needs of those who will take up teaching or research work.

Students are sent throughout the State to supervise advanced registry tests as well as to study general conditions as they exist on some of the leading dairy farms.

CURRICULUM

JUNIOR YEAR	Term:	I	II	III
Technical Writing (Eng. 104-106).....		2	2	2
Elements of Economics (Econ. 101-102).....		3	3	..
Agricultural Economics (A. E. 103).....		..	..	3
General Bacteriology (Gen. Bact. 101-103).....		3	3	3
Anatomy and Physiology (V. M. 101).....		3	..	..
Dairy Production and Barn Practice (D. H. 104).....		4	..	..
Advanced Registry and Association Work (D. H. 102)...		2	..	..
Farm Dairying (D. H. 105).....		..	3	..
Commercial Dairying (D. H. 106-107).....		..	3	3
Judging Dairy Products (D. H. 103).....		..	..	2
Principles of Breeding (A. H. 104).....		..	..	4
Electives.....		..	3	..

SENIOR YEAR	Term:	I	II	III
Dairy Bacteriology (Bact. 104-106).....		3	3	3
Market Milk (D. H. 108).....		3	..	..
Animal Diseases (V. M. 102).....		..	..	4
Advanced Testing (D. H. 109).....		..	3	..
Thesis (D. H. 111-113).....		2	2	2
Farm Machinery (F. E. 101).....		3	..	..
Gas Engines (F. E. 102).....		..	3	..
Tractors (F. E. 103).....		..	..	3
Electives.....		6	6	5

ENTOMOLOGY AND BEE CULTURE

This department is concerned with the teaching of entomology to all agricultural students as basic for future work in economic entomology and for its pedagogic and cultural value.

The success of the farmer and particularly the fruit grower is in a large measure dependent upon his knowledge of the methods of preventing or combating the pests that menace his crops each year. Successful methods of control are emphasized in the economic courses.

There is an ever increasing demand for trained entomologists. The entomological work of the Experiment Station, the Extension Service, the College of Agriculture and the office of the State Entomologist being in one administrative unit, enables the student in this department to avail himself of the many advantages accruing therefrom. Advanced students have special advantages in that they may be assigned to work on station projects already under way.

Courses in beekeeping are offered and new courses will be added as the demand warrants. The field for specialists in beekeeping is especially attractive now and commercial beekeeping is productive of greater profits each year.

CURRICULUM

SOPHOMORE YEAR	Term:	I	II	III
Embryology (Zool. 104-105)		4	4	..
General Entomology (Ent. 101)		..	..	3
Physics (Physics 104-106)		4	4	4
English (Eng. 104-106)		2	2	2
Organic Chemistry (Org. Chem. 103-104)		3	3	..
R. O. T. C. (M. I. 102)		2	2	2
Electives		3	3	7

JUNIOR YEAR	Term:	I	II	III
Insect Morphology (Ent. 102)		2	..	..
Economic Entomology (Ent. 103-104)		..	4	4
General Bacteriology (Bact. 101-103)		3	3	3
Electives		12	10	10

SENIOR YEAR	Term:	I	II	III
Economic Entomology (Ent. 105-107)		5	5	5
Thesis (Ent. 109-111)		2	2	2
Electives		10	10	10

NOTE: The Freshman year is the same as for other agricultural students.

FARM MANAGEMENT

In this department are grouped courses in farm management, agricultural economics, marketing, and the kindred subjects of rural organization.

Farm management has been defined as the business of the individual farmer to so organize his business as to produce the greatest continuous profit. This

can be done, however, only when the organization is in accordance with the broader principles of agricultural economics. It requires not only knowledge of the many factors involved in the production of crops and animals, but also administrative ability to coordinate them into the most efficient farm organization.

The aim of the farm management course is to assist the student to perceive the just relationship of the several factors of production and disposition as applicable to local conditions and to develop in him executive and administrative capacity. Students well trained in farm management are in demand for county agent work, experiment station or United States Government investigation, and college or secondary school teaching.

Agricultural economics considers the fundamental principles underlying production, distribution, and consumption, more especially as they bear upon agricultural conditions. Labor, land and capital are considered in their relationship to agriculture. The need for more exact business records on the farm is forcing itself imperatively on the minds of all students of agricultural economics. To meet this demand a course is offered in farm accounting. This course is not elaborate but is designed to meet the demand for a simple yet accurate system of farm business records.

The comparative isolation of country life tends naturally to individual rather than cooperative effort. The course in rural organization aims to show the student the advantages of combined effort in country communities, to sketch the history of rural organization with a discussion of its failures and successes, and to point out practical methods of organizing rural communities for mutual and individual benefit.

CURRICULUM

JUNIOR YEAR	Term:	I	II	III
Technical English (Eng. 104-106)		2	2	2
Principles of Economics (Econ. 101-102)		3	3	..
Agricultural Economics (A. E. 101)		..	..	3
Fertilizers (Soils 105)		..	..	3
Farm Accounting (A. E. 103)		..	..	3
Farm Machinery (F. E. 101)		3	..	..
Bacteriology (Bact. 101-102)		3	3	..
Drainage (F. E. 108)		..	..	4
Grading Grain Crops (Agron. 106)		..	3	..
Electives		6	6	3

SENIOR YEAR	Term:	I	II	III
Farm Management (F. M. 101-102)		3	3	..
Markets and Marketing (A. E. 102)		3	..	..
Commercial Law (Econ. 110-112)		3	3	3
Community Study (R. O. 101-103)		2	2	2
Principles of Rural Organization (R. O. 104)		..	..	3
Electives		6	9	9

HORTICULTURE

There are several reasons why the State of Maryland should be pre-eminent in the different lines of horticulture and offers such excellent opportunities for horticultural enterprises. A few of the more evident ones are the wide variation in soil and climate from the Eastern Shore to the mountainous countries of Allegany and Garrett in the west, the nearness to all of the large eastern markets and the large number of railroads, interurban lines and waterways, all of which combine to make marketing easy and comparatively cheap.

The Department of Horticulture offers four major lines of work, namely: Pomology, Vegetable Gardening, Floriculture and Landscape Gardening. Students wishing to specialize in horticulture can arrange to take either a general course during the four years or enough work is offered in each division to allow students to specialize during the last two years in any of the four divisions. The courses have been planned to cover such subject matter that upon their completion students should be fitted either to engage in commercial work, county agent work, or teaching and investigational work in the state and federal institutions.

The department has at its disposal about twenty acres of ground devoted to vegetable gardening, eighteen acres of orchards, small fruits and vineyards, and twelve greenhouses, in which flowers and forcing crops are grown. Members of the teaching staff are likewise members of the experiment station staff and thus students have an opportunity to become acquainted with the research which the department is carrying on. Excellent opportunity for investigating new problems is afforded to advanced undergraduates and to graduate students.

Curricula

Students who intend to specialize in pomology or vegetable gardening are required to take the same subjects which other agricultural students take during the first two years. Students who specialize in floriculture or landscape gardening, however, will take a slightly different curricula. It is felt that such students require certain special courses, which it is unnecessary to require of all agricultural students. The curricula follow:

POMOLOGY

JUNIOR YEAR	Term:	I	II	III
General Floriculture (Hort. 121)		3	..	..
Principles of Economics (Econ. 101-102)		3	3	..
Agricultural Economics (A. E. 101)		..	..	3
Technical Composition (Eng. 104-106)		2	2	2
Systematic Pomology (Hort. 104)		3	..	..
Small Fruit Culture (Hort. 106)		..	..	3
Fruit and Vegetable Judging (Hort. 108)		2	..	..
General Plant Pathology (Plt. Path. 101)		3	..	..
Horticultural Entomology (Ent. 115)		..	..	3
Genetics (Agron. 106)		..	4	..
Electives		1	8	6

SENIOR YEAR

	Term:	I	II	III
General Landscape Gardening (Hort. 131)		..	..	3
Farm Management (F. M. 101-102)		3	3	..
Commercial Fruit Growing (Hort. 102)		3	3	..
Economic Fruits of the World (Hort. 107)		..	3	..
Advanced Fruit Judging (Hort. 109)		1	..	..
Advanced Practical Pomology (Hort. 105)		1	..	..
Horticultural Breeding Practice (Hort. 142)		..	..	1
Horticultural Research and Thesis (Hort. 143-145)		2	2	2
Horticultural Seminar (Hort. 146-148)		1	1	1
Electives		6	5	10

VEGETABLE GARDENING

JUNIOR YEAR

	Term:	I	II	III
Principles of Economics (Econ. 101-102)		3	3	..
Agricultural Economics (A. E. 101)		..	..	3
Commercial Vegetable Gardening (Hort. 113-114)		3	3	..
Small Fruit Culture (Hort. 106)		..	..	3
General Plant Pathology (Plt. Path. 101)		3	..	..
Horticultural Entomology (Ent. 115)		..	..	3
Genetics (Agron. 106)		..	4	..
Vegetable Forcing (Hort. 118)		..	..	3
Technical Composition (Eng. 104-106)		2	2	2
Advanced Plant Pathology (Plt. Path. 106)		..	4	..
General Floriculture (Hort. 121)		3	..	..
Electives		3	1	3

SENIOR YEAR

	Term:	I	II	III
Tuber and Root Crops (Hort. 112)		3	..	..
Systematic Olericulture (Hort. 116)		3	..	..
Advanced Vegetable Gardening (Hort. 117)		..	..	1
Horticultural Breeding Practice (Hort. 142)		..	..	1
General Landscape Gardening (Hort. 131)		..	..	3
Horticultural Research and Thesis (Hort. 143-145)		2	2	2
Horticultural Seminar (Hort. 146-148)		1	1	1
Electives		8	14	9

FLORICULTURE

SOPHOMORE YEAR

	Term:	I	II	III
Plant Physiology (Plt. Phys. 101-102)		..	4	3
General Geology (Geol. 101)		3	..	..
Soil Physics and Management (Soils 101-102)		..	3	3
Organic Chemistry (Gen. Chem. 112-113)		3	3	..
Entomology (Ent. 101)		..	..	3
Elementary Floriculture (Hort. 122)		..	..	3
Elementary Pomology (Hort. 101)		4	..	..
Technical Composition (Eng. 104-106)		2	2	2
Basic R. O. T. C. (M. I. 102)		2	2	2
Electives		4	4	2

JUNIOR YEAR	Term:	I	II	III
Greenhouse Management (Hort. 123-124).....		3	3	..
Floricultural Practice (Hort. 125).....		..	..	1
Greenhouse Construction (Hort. 126).....		..	2	..
Garden Flowers (Hort. 129).....		..	..	3
Plant Materials (Hort. 132-133).....		2	..	2
Principles of Economics (Econ. 101-102).....		3	3	..
General Plant Pathology (Plt. Path. 101).....		3	..	..
Horticultural Entomology (Ent. 115).....		..	..	3
Systematic Botany (Morph. and Myc. 109).....		3	..	..
Vegetable Forcing (Hort. 118).....		..	..	3
General Landscape Gardening (Hort. 131).....		..	..	3
Electives.....		3	9	2

SENIOR YEAR	Term:	I	II	III
Commercial Floriculture (Hort. 126-127).....		3	3	..
Horticultural Breeding Practice (Hort. 142).....		..	..	1
Horticultural Research and Thesis (Hort. 143-145).....		2	2	2
Horticultural Seminar (Hort. 146-148).....		1	1	1
Electives.....		11	11	11

NOTE: The Freshman year is the same as for other agricultural students.

LANDSCAPE GARDENING

FRESHMAN YEAR	Term:	I	II	III
Gen. Chem. and Qual. Anal. (Gen. Chem. 101-103).....		4	4	4
General Zoology (Zool. 101-102).....		4	4	..
General Botany (Bot. 101).....		..	..	4
Composition and Rhetoric (Eng. 101-103).....		3	3	3
Public Speaking (Pub. Speak. 101-103).....		1	1	1
Advanced Algebra (Math. 104).....		3	..	..
Plane Trigonometry (Math. 107).....		..	3	..
Plane Analytic Geometry (Math. 108).....		..	..	3
Basic R. O. T. C. (M. I. 101).....		2	2	2

SOPHOMORE YEAR	Term:	I	II	III
Plant Physiology (Plt. Phys. 101-102).....		..	4	3
General Geology (Geol. 101).....		3	..	..
Soil Physics and Management (Soils 101-102).....		..	3	3
Organic Chemistry (Org. Chem. 103-104).....		3	3	..
Entomology (Ent. 101).....		..	..	3
Elementary Pomology (Hort. 101).....		4	..	..
Plane Surveying.....		1	2	2
General Landscape Gardening (Hort. 131).....		..	..	3
Freehand Drawing (Dr. 101).....		1	..	..
Mechanical Drawing (Dr. 102).....		1	1	..
Basic R. O. T. C. (M. I. 102).....		2	2	2
Electives.....		2	2	1

JUNIOR YEAR	Term:	I	II	III
Plant Materials (Hort. 132-133).....		2	..	2
History of Landscape Design (Hort. 138).....		..	1	..
Elements of Landscape Gardening (Hort. 134).....		..	3	..
Garden Flowers (Hort. 128).....		..	..	3
Principles of Economics (Econ. 101-102).....		3	3	..
Technical Composition (Eng. 104-106).....		2	2	2
Horticultural Entomology (Ent. 115).....		..	..	3
General Plant Pathology (Plt. Path. 101).....		3	..	..
Systematic Botany (Morph and Myc. 109).....		3	..	..
Drainage (F. E. 108).....		..	..	3
Electives.....		4	8	4

SENIOR YEAR 1	Term:	I	II	III
Landscape Design (Hort. 35-136).....		3	3	..
Landscape Practice (Hort. 137).....		..	..	3
Civic Art (Hort. 139).....		2	..	..
Horticultural Research and Thesis (Hort. 143-145).....		2	2	2
Horticultural Seminar (Hort. 146-148).....		1	1	1
Electives.....		9	11	11

SOILS

The Department of Soils gives instruction in the physics, chemistry, and biology of the soil, the courses being designed to equip the future farmer with a complete knowledge of his soil and also to give adequate training to students who desire to specialize in soils. Students who are preparing to take up research or teaching are expected to take graduate work in addition to the regular undergraduate courses that are offered. The department possesses the necessary equipment and facilities for the instruction in these subjects, and in addition affords opportunities for the student to come in contact with the research at the Agricultural Experiment Station, especially in the pot culture laboratories and on the experimental fields at the station and in other parts of the State.

Graduate students will find unusual opportunities to fit themselves for teaching soils in agricultural colleges, to conduct research in experiment stations, and to carry on work with the Bureau of Soils, United States Department of Agriculture.

CURRICULUM

JUNIOR YEAR	Term:	I	II	III
Technical Composition (Eng. 104-106).....		2	2	2
Principles of Economics (Econ. 101-102).....		3	3	..
Agricultural Economics (A. E. 101).....		..	..	3
General Bacteriology (Bact. 101-102).....		3	3	..
Soil Bacteriology (Soils 107).....		..	..	4
Quantitative Analysis (Gen. Chem. 107-108).....		3	3	..
Soil Fertility and Fertilizers (Soils 103-105).....		3	3	3
Electives.....		3	3	5

SENIOR YEAR	Term:	I	II	III
Farm Management (F. M. 101-102).....		3	3	..
Methods of Crop Investigations (Agron. 106).....		3	..	..
Crop Rotations (Agron. 109).....		..	2	..
Soil Survey and Classification (Soils 106).....		3	..	..
Soil Technology (Soils 111-113).....		3	3	3
Drainage (F. E. 108).....		..	..	3
Seminar (Soils 115).....		..	1	1
Methods of Soil Investigations (Soils 114).....		..	..	2
Electives.....		5	8	8

CURRICULUM FOR GENERAL AGRICULTURE

Those who do not care to specialize in any particular phase of agriculture will follow this curriculum.

JUNIOR YEAR	Term:	I	II	III
Elements of Economics (Econ. 101-102).....		3	3	..
Agricultural Economics (A. E. 101).....		..	..	3
Technical Writing (Eng. 104-106).....		2	2	2
Genetics (Agron. 106).....		..	4	..
General Plant Pathology (Plt. Path. 101).....		3	..	..
Soil Fertility and Fertilizers (Soils 105).....		..	..	3
Dairy Production and Barn Practice (D. H. 102).....		4	..	..
Principles of Breeding (A. H. 104).....		..	..	4
General Bacteriology (Bact. 101-102).....		3	3	..
Electives.....		2	5	5

Suggested Electives.

Agricultural Chemistry (Ind. Chem. 101).....	..	..	4
Commercial Fruit Growing (Hort. 102-103).....	3	3	..
Commercial Vegetable Gardening (Hort. 113-115).....	3	3	..
Small Fruit Culture (Hort. 106).....	..	..	3
Farm Dairying (D. H. 104).....	..	3✓	..
Judging Dairy Production (D. H. 106).....	..	..	2
Advanced Judging (A. H. 110).....	..	..	2
Fruit and Vegetable Judging (Hort. 108).....	2	..	..
Grading Farm Crops (Agron. 103).....	..	3✓	..

SENIOR YEAR	Term:	I	II	III
Farm Management (F. M. 101-102).....		3	3	..
Farm Poultry (P. H. 101).....		..	..	3
Drainage (F. E. 108).....		..	..	3
Farm Forestry (For. 101).....		..	..	3
Cropping Systems and Methods (Agron. 107).....		..	2	..
Farm Machinery (F. E. 101).....		3	..	..
Gas Engines (F. E. 102).....		..	3	..
Tractors and Trucks (F. E. 103).....		..	..	3
Electives.....		11	9	5

SHORT COURSE IN AGRICULTURE

A. Students who have had four years of high school training or its equivalent may follow a two-year curriculum of regular college courses designated by the dean. A certificate is granted by the college upon completion of the work. If, after the student has been awarded a certificate, he is desirous of taking work for a degree, he may continue for two years with a regular college curriculum.

B. Another two-year curriculum, commonly known as "The Two-Year Agricultural Course" is sub-collegiate in nature. To enter this two-year work the applicant must have preparation at least equal to the work given in the seventh grade of the public schools. At the conclusion of the course students having completed the regular work as outlined are given a certificate stating the studies pursued during the time spent in the college. No college credit toward a degree is given for work done in any of these courses.

TWO-YEAR AGRICULTURE

FIRST YEAR	Term:	I	II	III
Cereal Crops (Agron. 1).....		3	..	..
Breeds and Judging of Livestock (A. H. 1).....		3	..	..
Elementary Pomology (Hort. 1).....		3	..	..
General Botany (Bot. 1).....		3	..	..
General Chemistry (Gen. Chem. 1-2).....		3	3	..
Composition and Rhetoric (Eng. 1-2).....		3	3	..
Principles of Dairying (D. H. 1).....		..	3✓	..
Landscape and Floriculture (Hort. 9).....		..	3✓	..
Insect Pests (Ent. 1).....		..	3✓	..
~~Farm Woodwork (Shop 1).....~~ <i>Not offered</i>		..	1	..
Public Speaking (Pub. Sp. 1).....		..	1	..
Forage Crops (Agron. 2).....		..	..	3
General Soils (Soils 1).....		..	..	3
Feeds and Feeding of Live Stock (A. H. 2).....		..	..	3
Home Vegetable Gardening (Hort. 5).....		..	..	3
Sprays and Spraying (Ent. 2).....		..	..	2
Forging and Pipe Fitting (Shop 2).....		..	..	1
Vocational Publications (Eng. 3).....		..	..	2
R. O. T. C. (M. I. 1).....		2	2	2

SECOND YEAR	Term: I	II	III
Breeding of Animals (A. H. 3)	3	..	..
Farm Management (F. M. 1)	3	..	..
Fertilizers (Soils 2)	3	..	..
Plant Diseases (Plt. Path. 1)	3	..	..
Farm Machinery (F. E. 1)	3	..	..
Grain Judging (Agron. 3)	..	1	..
Farm Accounts (A. E. 1)	..	2	..
Dairy Production and Barn Practice (D. H. 3)	..	3	..
Bacteriology (Bact. 1)	..	2	..
Farm Buildings (F. E. 6)	..	2	..
Gas Engines (F. E. 2)	..	3	..
Animal Diseases (V. M. 1)	..	..	3
Farm Poultry (P. H. 1)	..	..	3
Farm Forestry (For. 1)	..	..	3
Farm Drainage (F. E. 8)	..	..	2
Tractors and Trucks (F. E. 3)	..	..	3
R. O. T. C. (M. I. 2)	2	2	2
Elect one or a portion of each:			
Advanced Agronomy (Agron. 4)	3	3	3
Special Animal Husbandry (A. H. 4-6)	3	3	3
Farm Dairying (D. H. 3)	3	..	..
Judging of Dairy Products (D. H. 4)	..	..	3
Commercial Fruit Growing (Hort. 2-3)	4	4	..
Small Fruits (Hort. 4)	..	..	3
Commercial Vegetable Gardening (Hort. 6-8)	4	4	4
Commercial Floriculture (Hort. 10-12)	3	3	3
Beekeeping (Zool. 3)	..	..	1

COURSES IN AGRICULTURE FOR SOLDIERS AND SAILORS

Students who are prepared to take up collegiate work fit directly into one of the four-year courses in Agriculture. Others who have but two years to spend in the University and are not prepared to enter college, may take the regular two-year agricultural course, which does not pre-suppose graduation from high school and which does not lead to a degree. There are still others who do not fit in any of the regularly planned courses, and for these the University has set up special unit courses, some of which are outlined on the following page:

*FIRST YEAR OF TWO-YEAR COURSE IN AGRICULTURE

For Special Federal Board Students

Students may elect any group or combination of groups according to their special interests.

Month	General Horticulture	Farm Management and Business	General Animal Husbandry	Poultry Husbandry	General Agronomy	Practical English and Comp. Two-Year English	Farm Equipment Given in Special Course: June, July and August
September	Root Crops Fruit Harvest Fall Budding		Breeds and Judging I	Management	Corn		Farm Machinery
October	Varieties Fruit Picking Apples Packing Fruit		Breeds and Judging II	Feeding	Corn	English and	Farm Machinery
November	Harvested Crops Storage, Burying Care of Farm Implements Christmas Flowers		Feeds and Feeding I	Fattening	Small Grains		Farm Machinery
December	Forcing Vegetables Floriculture Greenhouse Insects and Diseases		Feeds and Feeding II	Exhibition Judging	Small Grains	Com position	Farm Machinery
January	Pruning		Feeds and Feeding III	Breeds and Breeding	Judging Corn		Gas Engines
February	Plant Propagation Insects and Diseases of Fruits	According to needs of students	Principles of Breeding I	Incubation	Judging Small Grains		Gas Engines
March	Seedage Cuttings Hot Beds and Cold Frames Garden Planning Seed Testing		Principles of Breeding II	Brooding	General Display Judging Perennial Grasses		Gas Engines
April	Garden Preparation Transplanting Pollination		Swine Production	Marketing	Annual Grasses	according to needs of students	Trucks and Tractors
May	Garden Planting Flower Beds Garden Insects		Beef Production	Culling	Legumes		Trucks and Tractors
June	Spraying, Diseases and Pests Cultivation June Budding		Sheep Production	Care of Young Stock	Legumes		Trucks and Tractors
July	Fruit Thinning Summer Spraying Summer Pruning Small Fruits		Dairy Management	Diseases			Farm Mechanics
August	Grapes, Berries Care of Gardens			Poultry House Construction			Farm Mechanics

*Second year of the two-year course in Agriculture organized according to the needs of the student.

*Special courses in Farm Mechanics, Gas Engines, Tractors and Trucks will be run in co-operation with the Federal Board authorities from the middle of June to the end of August, 1921 and 1922.

Description of Courses

AGRONOMY

AGRON. 101. *Cereal Crops*—Four credit hours: three lectures and one laboratory period. First term. Freshman year.

History, distribution, culture and improvement of cereal crops.

AGRON. 102. *Forage Crops*—Four credit hours: three lectures and one three-hour laboratory period. Third term. Sophomore year.

History, distribution, adaptation, culture, and uses of forage, pasture, cover and green manure crops. The laboratory periods are largely devoted to the identification and classification of forage plants and seeds, and to purity and viability tests of seeds.

AGRON. 103. *Grading Farm Crops*—Three credit hours: two lectures and one three-hour laboratory period. Second term. Junior year. Prerequisites, Agron. 101 and 102.

Market classifications and grades as recommended by the United States Bureau of Markets and practice in determining the grades.

AGRON. 104. *Grain Judging*—One credit hour: one three-hour laboratory period. Second term. Senior year. Prerequisite, Agron. 101.

Practice in judging the cereals for milling, seeding, and feeding purposes.

AGRON. 105. *Research and Thesis*—Six credit hours. To be arranged. Senior year.

Students are given a chance to do some investigational work either in the way of collecting information on some phase of agronomic work or working some problem in the laboratory, field, or greenhouse.

For Advanced Undergraduate and Graduate Students

AGRON. 106. *Genetics*—Four credit hours: three lectures and one three-hour laboratory period. Second term. Junior year. Prerequisites, Bot. 101 and Morph. and Myc. 101.

General course in genetics designed to prepare students for later courses in the breeding of crops in which they are specializing. (Wentz.)

AGRON. 107. *Cropping Systems and Methods*—Two credit hours: two lectures. Second term. Senior year. Prerequisites, Agron. 101-102, Soils 101-102.

Principles and factors influencing cropping systems in the United States; study of rotation experiments; theories of cropping methods; and practice in arranging type farming systems. (Metzger.)

AGRON. 108. *Crop Breeding*—Three credit hours: two lectures and one three-hour laboratory period. First term. Senior year. Prerequisites, Agron. 101, 102, and 104, Bot. 101.

The principles of breeding as applied to field crops and detailed studies made of methods used in crop improvement work. (Wentz.)

AGRON. 109. *Methods in Crop Investigations*—Three credit hours: two lectures and one three-hour laboratory period. Third term. Senior year. Prerequisites, Agron. 101-102.

Methods used by experiment stations in crop investigational work. The work of different stations on certain problems is classified with the view of the standardization of methods. Students are required to make reports on and criticize methods used by the different stations in attacking the problems studied. (Wentz.)

AGRON. 110-111. *Seminar*—One credit hour each term: one lecture. Second and third terms. Senior year.

The seminar is devoted largely to reports by the students on current bulletins and scientific papers dealing with problems in agronomy. (Staff.)

For Graduate Students

AGRON. 201. *Biometry*—Amount of credit to be determined by work accomplished. Lectures and laboratory periods.

Statistical methods as applied to problems in Genetics and Plant Breeding. The methods used in the study of variations and correlations are discussed and the biometrical constants worked out by the class for certain assigned or selected data. (Wentz.)

AGRON. 202. *Crop Breeding*—Amount of credit to be determined by work accomplished. Lectures and laboratory periods.

The content of this course is similar to the undergraduate course in Crop Breeding, but will be adapted more to graduate students and more of a range will be allowed in choice of material to suit special cases. (Wentz.)

AGRON. 203. *Research*—Amount of credit to be determined by work accomplished.

With the approval of the head of the department the student will be allowed to work on any problem in agronomy or he will be given a list of suggested problems from which he may make a selection. (Staff.)

For Short-Course Students

AGRON. 1. *Cereal Crops*—Three credit hours: two lectures and one three-hour laboratory period. First term. First year.

History, distribution, adaptations, uses, and culture of cereal crops, a larger part of the term being spent on corn and wheat.

AGRON. 2. *Forage Crops*—Three credit hours: two lectures and one three-hour laboratory period. Third term. First year.

History, distribution, adaptations, uses and culture of forage and cover crops adapted to Maryland conditions.

AGRON. 3. *Grain Judging*—One credit hour: one three-hour laboratory period. Second term. Second year. Prerequisite Agron. 1.

Judging grains from the standpoint of the grower, the feeder and the miller.

AGRON. 4. *Advanced Agronomy*—Three credit hours: two lectures and one three-hour laboratory period each term. Second year.

Short course students specializing in agronomy are given special work in judging and grading grains, crop improvement and various other phases of crop production. Students are allowed to elect subjects in other departments for part of the time.

ANIMAL HUSBANDRY

A. H. 101. *Animal Husbandry*—Four credit hours: three lectures and one laboratory period. Second term. Freshman year.

Live stock in relation to farm practices; types and breeds of farm animals.

A. H. 102a-102b. *Feeds and Feeding*—Three credit hours each term: two lectures and one laboratory period. First and second terms. Sophomore year.

Elements of nutrition; source, characteristics, and adaptability of the various food stuffs to the several classes of farm live stock. Feeding standards; the calculation and compounding of rations.

A. H. 103. *Management of Dairy Young Stock*—Three credit hours: two lectures and one laboratory period. Third term. Junior year.

The care, feeding and management of dairy young stock, breeding practices, feeding for advanced registry, and dairy cattle judging.

A. H. 104. *Principles of Breeding*—Four credit hours: three lectures and one laboratory period. Third term. Junior year.

This course covers the practical aspects of animal breeding, including heredity, variation, selection, growth, development, systems of breeding and pedigree study.

A. H. 105. *Swine Production*—Three credit hours: two lectures and one laboratory period. First term. Junior year.

Types and breeds of swine. Care, feeding, breeding, management, economics of swine husbandry and judging.

A. H. 106. *Meat and Meat Products*—Three credit hours: two lectures and one laboratory period. Second term. Junior year. (Not given in 1921-22.)

The slaughtering of farm live stock, and the production, preparation and handling of meat and meat products.

A. H. 107. *Beef Production*—Three credit hours: two lectures and one laboratory period. Second term. Junior year.

Beef and dual purpose breeds. The care, feeding, breeding and management of beef herds; fattening; and the economics of the beef industry.

A. H. 108. *Sheep Production*—Three credit hours: two lectures and one laboratory period. First term. Senior year.

Breeds, their history, characteristics and adaptability. Care, feeding, breeding, and management. Grades of wool. Judging and scoring.

A. H. 109. *Horse and Mule Production*—Three credit hours: two lectures and one laboratory period. First term. Senior year.

Breeds, their history, characteristics and adaptability. Care, feeding, breeding, breaking and training, judging.

A. H. 110-111. *Advanced Judging*—Two credit hours each term: one lecture and one laboratory period. Second and third terms. Junior or Senior years. Prerequisites, A. H. 103, 105, 107.

First Term—Competitive judging of beef cattle, sheep and swine. Second term. Competitive judging of dairy cattle. Various trips to stock farms throughout the State will be made. Such judging teams as may be chosen to represent the University will be selected from among those taking this course.

A. H. 112. *Advanced Breed Study*—Three credit hours: two lectures and one laboratory period. Third term. Senior year. Prerequisites, A. H. 103, 105, 107, 108.

Special consideration of the history, development, and distribution of the more important breeds of live stock; important families and individuals; assigned reading and pedigree work.

A. H. 113. *Markets and Marketing*—Three credit hours: two lectures and one laboratory period. First term. Senior year. Prerequisites, A. H. 106, 107, 108, 109. (Not given in 1921-22.)

History, development, organization and status of the meat, wool, and horse industries. The packing industry and its by-products. Market classes and grades of live stock. Markets and market reports.

A. H. 114. *Seminar*—One credit hour: one lecture. Third term. Senior or graduate students only.

Problems, readings and discussions on subjects relating to animal husbandry.

A. H. 115-117. *Research and Thesis*—Two credit hours each term. Senior year.

Original investigations in problems in animal husbandry, the results of which research are to be presented in the form of a thesis.

Advanced Undergraduate and Graduate Courses

A. H. 118. *Animal Genetics and Statistical Methods*—Four credit hours: three lectures and one laboratory period. First term. Senior year or graduate. Prerequisites, A. H. 104.

An introduction to genetics and statistical methods as applying more especially to animal breeding. (Meade.)

A. H. 119. *Nutrition*—Three credit hours: three lectures. Third term. Seniors or Graduates. Prerequisite, A. H. 102.

Composition of the animal body, digestion, assimilation, metabolism, protein and energy requirements. Method of investigation and studies in the utilization of food nutrients. (Meade.)

For Short-Course Students

A. H. 1. *Breeds and Judging*—Three credit hours: two lectures and one laboratory period. Second term. First year.

Live stock in relation to successful farm practices, types and breeds of farm animals with special reference to the needs of the practical farmer.

A. H. 2. *Feeds and Feeding*—Three credit hours: two lectures and one laboratory period. Third term. First year.

A study of the source, composition, characteristics and adaptability of the various food stuffs, feeding standards and the calculation of rations.

A. H. 3. *Breeding of Animals*—Three credit hours: two lectures and one laboratory period. Second term. Second year.

A course covering the practical aspects of animal breeding, including heredity, variation, selection, systems of breeding and pedigree study.

A. H. 4-6. *Special Animal Husbandry*—Three credit hours: two lectures and one laboratory period. Throughout the second year. Each term of work

is complete in itself and may be elected without regard to the work of the term preceding it or of the term following.

Swine Production—First term. Types and breeds of swine. Care, feeding, breeding, management, economics of swine husbandry and judging.

Beef Production—Second term. Subject matter of course same as for "Swine Production."

Sheep Production—Third term. Subject matter of course same as for "Swine Production."

A. H. 7. *Management of Dairy Young Stock*—Three credit hours: two lectures and one laboratory period. Third term. Second year.

The care, feeding and management of dairy young stock, breeding practices, feeding for advanced registry, and dairy cattle judging.

GENERAL ANIMAL HUSBANDRY

Seminar—A forum for the discussion of subjects relating to animal industry. Open to juniors, seniors and graduate students.

Research and Thesis—The work will be arranged with each student individually. He may select some topic or problem in which he is interested and which will require independent investigation.

ANIMAL PATHOLOGY AND VETERINARY MEDICINE

During 1921-22 only the first two years of the combined six-year course in Agriculture and Veterinary Medicine are given.

For Students in Agriculture

V. M. 101. *Anatomy and Physiology*—Three credit hours: three lectures. First term. Junior year.

Structure of the animal body; abnormal as contrasted with the normal; the inter-relationship between the various organs and parts both as to structure and function.

V. M. 102. *Animal Diseases*—Four credit hours: three lectures and one laboratory period. Third term. Senior year.

Diseases of domestic animals, infectious and non-infectious. Early recognition of disease; hygiene, sanitation, and prevention; first aid.

For Short-Course Students

V. M. 1. *Animal Diseases*—Three credit hours: two lectures and one laboratory period. Second term. Second year.

Briefer course on the diseases of domestic animals; methods of recognizing disease in its early stages; relation of care and sanitation to disease.

BACTERIOLOGY AND SANITATION

BACT. 101-103. *General Bacteriology*—Three credit hours each term: one lecture and two laboratory periods. Junior year.

A brief history of bacteriology; microscopy; bacteria and their relation to nature; morphology, classification, identification of species and the different methods of sterilization and disinfection; preparation of culture media; isolation

and cultivation of aerobes and anaerobes; examination of cultures; microscopic examination of bacteria; stains with their composition, classification and use; vital activities of bacteria; their relation to disease; use of experimental animals; bacteria in water, milk and soils; cultural characters of representative organisms from the following genera: micrococcus, streptococcus, bacterium, bacillus, pseudomonas, streptothrix, protozoa, filtrable viruses and immunity.

BACT. 103-A. *Special for Home Economics Students only*—Three credit hours: third term. One lecture and two laboratory periods. Junior year.

The more important bacteria, yeasts and fungi ordinarily encountered in the field of domestic economy. Preservation of foods. Sanitation.

For Advanced Undergraduates or Graduates

BACT. 104-106. *Dairy Bacteriology*—Three credit hours each term: one lecture and two laboratory periods. Senior year. Prerequisites, Bact. 101-103.

Historical sketch; relation of bacteria to dairy products; preparation of media; plating by the dilution method; sources of contamination, including stable atmosphere, udder, exterior of cows and attendants; kinds of utensils and their sterilization; kinds of bacteria in milk and their development; direct microscopic examination; sedimentation test and centrifugalization; fresh and old milk, baby and special milks; market milk; graded milk; certified milk; sour milk; whey; cream; butter, cheese; condensed milk; powdered milk and milk starters; pasteurization by flash and slow method; changes in milk due to bacteria and milk carriers of disease. (Poelma.)

BACT. 107-109. *Advanced Bacteriology*—Two to three credit hours each term: two to three laboratory periods. Senior year. Prerequisites, Bact. 101-103.

This course is intended primarily to give the student a chance to develop his own initiative. He will be allowed to decide upon his project and work it out as much as possible in his own way under proper supervision. In this manner he will be able to apply his knowledge of bacteriology to a given problem. He will also get to know something of the methods of research and will receive a valuable training in obtaining careful and accurate data. (Pickens.)

BACT. 110-112. *Thesis*—Two credit hours each term: senior year. Optional.

The investigation of a given project, the results of which are to be presented in the form of a thesis and submitted for credit toward graduation. (Pickens.)

BACT. 113-115. *Seminar*—One credit hour each term: senior year. Required of seniors taking Bact. 107-109 and all graduate students.

The work will consist of reports on individual projects and on recent scientific literature.

For Graduate Students Only

BACT. 201-203. *Research Bacteriology*—Three credit hours each term: three laboratory periods by assignment. Prerequisites, Bact. 101-103 and in certain cases 104-106 and 107-109, depending upon the project. (Pickens.)

For Short-Course Students

BACT. 1. *Agricultural Bacteriology*—Two credit hours: two lectures. Second term. Second year.

An elementary course touching upon the following topics: the general characters of micro-organisms; fermentation; putrefaction and decay; nature's food supply; the carbon cycle; decomposition of nitrogenous compounds; nitrification and denitrification; the manure heap and sewage; reclamation of lost nitrogen; bacteria and soil minerals; bacteria in water and milk; control of milk supply; bacteria in butter and cheese making; alcohol, vinegar, sour kraut, tobacco, silage and flax; preservation of food products; resistance against parasitic bacteria; tuberculosis and other germ diseases and parasitic diseases of plants.

DAIRY HUSBANDRY

D. H. 101. *Principles of Dairying*—Four credit hours: three lectures and one laboratory period. Third term. Sophomore year.

Origin, history, development and characteristics of the dairy breeds; relationship of Dairy Husbandry to general agriculture; extent of the dairy business and value of products; milk, its secretion, character and composition.

D. H. 102. *Advanced Registry and Association Work*—Two credit hours: one lecture and one laboratory period. First term. Sophomore year.

Requirements for advanced registry; the management of long and short time tests; breed association rules; general work of the supervisor; care and testing of samples; cow testing associations; bull associations. Paid supervisors at \$3.00 per day are selected for work over week-ends from those taking this course.

D. H. 103. *Judging Dairy Products*—Two credit hours: one lecture and one laboratory period. Second term. Sophomore year.

Competitive judging of milk, butter and cheese. National authorities will address the class and trips will be taken to butter, cheese and milk markets for the purpose of familiarizing the students with the commercial quality of these products. Such teams as may be chosen to represent the University will be selected from those electing this course.

D. H. 104. *Dairy Production and Barn Practice*—Four credit hours: three lectures and one laboratory period. First term. Junior year.

The care, feeding and management of dairy cattle, including selection of feeds; feeding standards; systems of herd feeding; silage, soiling crops and pasture; selection, care and feeding the sire; dairy herd development and management; method of keeping and forms for herd records; dairy barn arrangement and equipment; dairy cost accounts and barn practices which influence quantity and quality in milk. Prerequisite D. H. 101.

Courses for Advanced Undergraduates and Graduates

D. H. 105. *Farm Dairying*—Three credit hours: two lectures and one laboratory period. Second term. Junior year.

How bacteria and dirt get into milk; how they may be kept out; equipping the stable and milk house; surface coolers and precooling; milk cooling tanks; sterilizers for utensils; washing and sterilizing utensils; dairy farm score cards; composition of milk, butter and cheese and methods of testing. Prerequisites D. H. 101 and 104.

D. H. 106-107. *Commercial Dairying*—Three credit hours, each term: one lecture and two laboratory periods. Second and third terms. Junior or Senior years.

Methods of testing and of manufacturing of dairy products. Dairy machinery. Theory and practice of cream separation, pasteurization and processing of milk and cream: Butter, ice cream and cottage cheese making. Prerequisites D. H. 104 and 106.

D. H. 108. *Market Milk*—Three credit hours: two lectures and one laboratory period. First term. Senior year.

A study of market milk conditions, requirements of city milk trade; the production of milk; pasteurization of milk; milk and its relation to the public health; the food value of milk; methods of handling market milk and market cream for direct consumption; the transportation of milk; Babcock testing of milk and milk products. In this course visits will be made to dairies and to milk plants. Prerequisites D. H. 104 and 105.

D. H. 109. *Advanced Course in Milk Testing*—Three credit hours: one lecture and two laboratory periods. Second term. Senior year.

This course includes the determination of moisture and dry matter in milk and dairy products; various tests for fat and casein; testing of butter and oleomargarine; adulterations and preservatives. Prerequisite D. H. 107.

D. H. 110. *Seminar*—One credit: one lecture. Second term.

The seminar is devoted largely to reports by students on current bulletins and scientific papers in dairy production and market milk problems.

D. H. 111-113. *Thesis*—Six credit hours. Year to be arranged.

Students are given opportunities to conduct investigational work, either in collecting information or original research in Dairy Production and Market Milk.

D. H. 114. *City Milk Supply*—Two credit hours: two lectures. First term.

Securing a milk supply for city consumers; methods of buying from producers; the transportation of milk; milk contractors; systems of handling milk in the city milk plants; the sterilization of utensils; systems of delivery to consumers.

D. H. 115. *Dairy Farm and City Milk Inspection*—Two credit hours: two lectures. Second term.

Early attempts at control and the development of milk inspection; systems of dairy inspection; systems of milk plant inspection; dairy farm score cards; dairy plant score cards; relation of milk to public health; grading milk; milk standards; milk and cream regulations; methods of appointment and duties of dairy and milk inspectors; general improvement and control of milk supplies of cities and towns.

Graduates

D. H. 201. *Dairy Production*—Four credit hours: First term.

The care, feeding and management of dairy cattle, including feeding standards and selection of feeds; systems of herd feeding; silage and silos; soiling systems and pastures; the selection, care and feeding of the sire; dairy herd development and management; cost accounts and practices which influence quantity and quality in milk. (Gamble and staff.)

D. H. 202. *Research*—Nine credit hours. Year to be arranged. Graduates.

With the approval of the head of the department, students will be allowed to work on any problem in dairy production or market milk they may choose, or be given a list of problems from which to select a research project.

Insofar as schedules permit, students will be encouraged to visit the U. S. Dairy Division Laboratories and become acquainted with the dairy research problems in process and the methods of attack. This acquaints the student with the broad phases of research in dairy production and market milk. (Gamble and staff.)

For Short-Course Students

D. H. 1. *Principles of Dairying*—Four credit hours: three lectures and one laboratory period. First term. First year.

Origin, history, development and characteristics of the dairy breeds; relationship of Dairy Husbandry to general agriculture; extent of the dairy business and value of products; milk, its secretion, character and composition.

D. H. 2. *Advanced Registry and Association Work*—Two credit hours: one lecture and one laboratory period. Second term. First year.

Requirements for advanced registry; the management of long and short time tests; breeds association rules; general work of the supervisor; care and testing of samples; cow testing associations; bull associations. Paid supervisors at \$3.00 per day are selected for work over week-ends from those taking this course. Prerequisites Organic Chemistry 112 and 113.

D. H. 3. *Dairy Production and Barn Practice*—Four credit hours: three lectures and one laboratory period. First term. Second year.

The care, feeding and management of dairy cattle, including selection of feeds; feeding standards; systems of herd feeding; silage soiling crops and pasture; selection, care and feeding the sire; dairy herd development and management; method of keeping and forms for herd records; dairy barn arrangement and equipment; dairy cost accounts and barn practices which influence quantity and quality in milk. Prerequisite D. H. 1.

D. H. 4. *Farm Dairying*—Three credit hours: two lectures and one laboratory period. Second term. Second year.

How bacteria and dirt get into milk; how they may be kept out; equipping the stable and milk house; surface coolers and precooling; milk cooling tanks; sterilizers for utensils; washing and sterilizing utensils; dairy farm score cards; composition of milk, butter and cheese and methods of testing. Prerequisites D. H. 101 and 102.

D. H. 5. *Judging Dairy Products*—Two credit hours: one lecture and one laboratory period. Third term. Second year.

Competitive judging of milk, butter and cheese. National authorities will address the class and trips will be taken to butter, cheese and milk markets for the purpose of familiarizing the students with the commercial quality of these products. Such teams as may be chosen to represent the University will be selected from those electing this course.

ENTOMOLOGY

ENT. 101. *General Entomology*—Three credit hours: two lectures and one laboratory period. Third term. Sophomore year. Prerequisite, Zool. 101-102.

General principles of structural and systematic entomology. Lectures, recitations, laboratory work and field excursions. A collection of insects is required.

ENT. 102. *Insect Morphology*—Two credit hours: two laboratory periods. First term. Junior year. Prerequisite, Zool. 101-102.

A course in morphology designed to prepare students for work in economic entomology.

ENT. 103-104. *Economic Entomology*—Four credit hours each term: two lectures and two laboratory periods. Second and third terms. Junior year. Prerequisite, Ent. 101.

The theory and practice of insect control; their dependence upon insect morphology and biology. The discussion of economic insects.

ENT. 105-107. *Economic Entomology*—Five credit hours each term: three lecture hours and two laboratory periods. The Senior year. Prerequisite, Ent. 102-104.

Problems in applied entomology, including life history, ecology, distribution, parasitism and control.

ENT. 108. *Systematic Entomology*—Two credit hours: two laboratory periods. First term. Sophomore year. Prerequisite, Ent. 102.

The student selects some group in which he is particularly interested and makes a detailed study of it. The course requires considerable field work and is supplemented by laboratory periods and frequent conferences.

ENT. 109-111. *Thesis*—Two credit hours each term: laboratory periods to be arranged. The Senior year.

The intensive investigation of some zoological subject, the results of which are incorporated in a paper which is submitted as part requirement for graduation.

ENT. 112. *Insecticides and their Application*—Two credit hours: one lecture and one laboratory period. Second term. Junior year.

The principles of insecticides, their chemistry, preparation and application; construction, care and use of spray and dusting machinery; fumigation, methods and apparatus in mechanical control.

ENT. 113. *Medical Entomology*—Three credit hours: three lectures. First term. Sophomore year. Prerequisite, Zool. 101-102.

The relation of animals to disease, directly and as vectors of pathogenic organisms; the control of pests of man.

ENT. 114. *Scientific Delineation and Preparation*—One credit hour each term: one laboratory period. First and second terms. Senior year.

Photography, photomicrography, drawing freehand and with camera lucida, lantern-slide making, optical projection, preparation of exhibit and museum material.

ENT. 115. *Horticultural Entomology*—Three credit hours: two lectures and one laboratory period. Third term. Junior year. Prerequisite, Ent. 101.

Lectures, laboratory and field work on the morphology, biology and control of insect pests of horticultural crops.

For Graduate Students

ENT. 201. *Entomological Problems*—Maximum credit 5 hours per term.

Studies of minor problems in morphology, taxonomy and applied entomology with particular reference to preparation for individual research. (Cory.)

ENT. 202. *Research in Entomology*—Maximum credit 15 to 20 hours upon completion of the thesis.

Advanced students having sufficient preparation may, with the approval of the head of the Department, undertake supervised research in morphology, taxonomy or biology and control of insects. Frequently, the student may be allowed to work on Station or State Horticultural Department projects. The student's work may form a part of the final report on the project and be published in bulletin form. A report, suitable for publication, must be submitted at the close of the studies and the time and place of its publication will be determined by the professor in charge of the work. (Cory.)

ENT. 203. *Advanced Economic Entomology*—One credit hour: one lecture. Second term.

Lectures discussing the latest theories and practices in applied entomology. (Cory.)

For Short-Course Students

ENT. 1. *Insect Pests*—Two lectures and one laboratory period. Second term. First year.

A study of insects injurious to farm plants.

ENT. 2. *Sprays and Spraying*—One lecture and three hours laboratory period. Third term. First year.

Preparation and application of insecticides, together with a consideration of other methods of control.

ENT. 3. *Beekeeping*—One laboratory period. Third term.

Consideration of the underlying principles of successful beekeeping, with practice in preparation of equipment and the manipulation of bees.

FARM EQUIPMENT

The Department of Farm Equipment is organized to offer students of agriculture a working knowledge of those branches of agriculture which are based upon engineering principles. These subjects may be grouped under three heads: farm machinery, farm buildings, and farm drainage.

The modern tendency in farming is to replace hand labor, requiring the use of many men, by large machines which do the work of many men yet require only one man for their operation. In many cases horses are being replaced by tractors to supply the motive force for these machines. Trucks and automobiles are used on many farms. It is highly advisable that the student of any branch of agriculture have a working knowledge of the construction and adjustments of these machines.

About one-sixth of the total value of farms is tied up in the buildings. The study of the design of the various buildings, from the standpoint of convenience, economy and appearance, is, therefore, important.

The study of drainage includes the principles of tile drainage, the laying out and construction of tile drain systems, the use of open ditches, and a study of the Maryland drainage laws.

Description of Courses

F. E. 101. *Farm Machinery*—Three credit hours each term: two lectures and one laboratory period; first or third terms. Junior or Senior year.

A study of the design and adjustments of modern horse and tractor drawn machinery. Laboratory work consists of a detailed study of actual machinery, calibration tests and practice in adjusting.

F. E. 102. *Gas Engines*—Three credit hours: two lectures and one laboratory period. Second term. Junior or Senior Year.

The construction and operation of the various types of internal combustion motors encountered in farm practice.

F. E. 103. *Tractors and Trucks*—Three credit hours: two lectures and one laboratory period. Third term. Junior year. Prerequisite: F. E. 102.

A continuation of F. E. 102, with especial emphasis on the four cylinder motor. Includes special features of tractor practice. Particular attention given to study of ignition. Laboratory work includes a detailed study of carburetion and ignition systems, engine operation and adjusting, trouble shooting, etc.

F. E. 106. *Farm Buildings*—Two credit hours: two lectures. Second term. Junior year.

A study of all types of farm structures, also of farm heating, lighting, water supply, ventilation, and sanitation systems.

F. E. 108. *Farm Drainage*—Three credit hours: two lectures, one laboratory period. Third term.

A study of farm drainage systems, for the student who has not studied college mathematics or surveying. Includes the theory of tile drains, the depth and spacing of laterals, calculation of grades, and methods of construction. A smaller amount of time will be spent upon drainage by open ditches, and the laws relating thereto.

For Short-Course Students

The courses for Short-Course students in Farm Engineering cover substantially the same ground as the corresponding courses for the college students, with due allowance made for the Short Course students' lack of theoretical instruction.

F. E. 1. *Farm Machinery*—Two lectures, one laboratory period. First term. Second year.

A study of the operation and adjustments of modern farm machinery.

F. E. 2. *Gas Engines*—Two lectures, one laboratory period. Second term. Second year.

A study of gas engine design and construction.

F. E. 3. *Tractors and Trucks*—Two lectures, one laboratory period. Third term. Second year. Prerequisite: F. E. 2.

A continuation of F. E. 2, with especial attention to four cylinder motors.

F. E. 6. *Farm Buildings*—Two lecture periods. Second term. Second year.

A study of the various types of farm buildings, and of water, heating, and lighting systems.

F. E. 8. *Farm Drainage*—Two lectures, one laboratory period. Third term. Second year.

A study of the principles governing the design of farm drainage systems, and the construction of the same.

FARM MANAGEMENT

F. M. 101-102. *Farm Management*—Three credit hours each term: three lectures. First and second terms. Senior year.

The business of farming from the standpoint of the individual farmer. This course aims to connect the principles and practice which the student has acquired in the several technical courses and to apply them to the development of a successful farm business.

For Short-Course Students

F. M. 1. *Farm Management*—Three credit hours: two lectures and one laboratory period. First term. Second year.

A course parallel with F. M. 101-102, arranged for the students in the short agricultural courses.

Agricultural Economics

A. E. 101. *Agricultural Economics*—Three credit hours. Third term. Junior year. Prerequisite, Econ. 101-102.

The economic adaptations and adjustments necessary on the part of the agriculturist to meet the changing economic conditions. Population trend, land tenure, farm incomes, farm labor, agricultural credit, and price movements will receive special consideration.

A. E. 102. *Markets and the Marketing*—Three credit hours. First term. Senior year. Prerequisite, Econ. 101-102.

An analysis of the present system of transporting, storing and distributing farm products and a basis for intelligent direction of effort in increasing the efficiency of marketing methods and co-operative marketing.

A. E. 103. *Farm Accounting*—Four credit hours: three lectures and one laboratory period. Third term. Junior year.

The principles underlying farm accounting, emphasizing cost accounting and analysis of farm business.

For Short-Course Students

A. E. 1. *Farm Accounting*—Three lectures. Second term. Second year.

A course parallel with A. E. 103. For students in the short agricultural courses.

RURAL ORGANIZATION

R. O. 101-103. *Elements of Community Study*—Three credit hours each term. The Senior year.

A course dealing with the fundamental principles of community development.

R. O. 104. *Principles of Rural Organization*—Three credit hours. Third term. Junior year.

Historical and comparative development of farmers' co-operative organizations, stressing particularly present tendencies.

FORESTRY

The course in Farm Forestry aims to give the student in agriculture sufficient instruction and practice work to enable him to handle intelligently and scientifically the farm woodlands. Such a course should be required of all students fitting themselves for farm management and be given preferably in the spring term (on account of favorable weather for field work) during the Junior or Senior year for four-year men and during the Second year for two-year agricultural men. At the present time Forestry is not offered as a major course, but is used to supplement the content of the other courses.

Description of Courses

FOR. 101. *Farm Forestry*—Three credit hours: two lectures and one laboratory period. Third term. Senior year. Prerequisite, Bot. 101.

A study of forest botany, wood management, measurements, fire protection, nursery practice, tree planting, valuation and utilization of forest crops. The work is conducted by means of lectures and field work.

For Short-Course Students

FOR. 1. *Farm Forestry*—Three credit hours: two lectures and one laboratory period. Third term. Second year.

The content of this course is similar to that of For. 101, but is adapted to the development and needs of students in the short-course work.

HORTICULTURE

POMOLOGY

Description of Courses

HORT. 101. *Elementary Pomology*—Four credit hours: three lectures and one laboratory period. First term. Sophomore year.

A general course in Pomology. The proper location and site for an orchard are discussed. Varieties, planting plans, inter-crops, spraying, cultural methods, fertilizing methods, thinning, picking, packing and marketing are also given consideration. The subjects are discussed for apples, peaches, pears, plums, cherries and quinces. The principles of plant propagation as applied to pomology are discussed.

HORT. 102-103. *Commercial Fruit Growing*—Three credit hours: two lectures and one laboratory period. First term. Three credit hours: two lectures and one laboratory period. Second term. Senior year. Prerequisite, Hort. 101.

The proper management of commercial orchards in Maryland. Advanced work is taken up on the subjects of orchard culture, orchard fertilization, picking, packing, marketing and storing of fruits, orchard by-products, orchard heating and orchard economics. Designed for undergraduate or graduate students.

HORT. 104. *Systematic Pomology*—Three credit hours: two lectures and one laboratory period. First term. Junior year. Prerequisite, Hort. 101.

The history, botany and classification of fruits and their adaptation to Maryland conditions. Exercises are given in describing and identifying the leading commercial varieties of fruits. Students are required to help set up the College fruit show each year. Designed for undergraduate or graduate students.

Hort. 105. *Advanced Practical Pomology*—One credit hour. First term. Senior year. Prerequisites, Hort. 102-103 and 104.

A trip occupying one week's time will be made through the principal fruit regions of eastern West Virginia, Maryland and Pennsylvania. A visit to the fruit markets of several large cities will be made. The cost of this trip should not exceed thirty dollars to each student. Each student will be required to hand in a detailed report covering the trip. The time for taking this trip will be arranged yearly with each class.

Hort. 106. *Small Fruit Culture*—Three credit hours: two lectures and one laboratory period. Third term. Junior year.

The care and management of small fruit plantations. Varieties and their adaptation to Maryland soils and climate, packing, marketing, and a study of the experimental plots and varieties on the station grounds. The following fruits are discussed: the grape, strawberry, blackberry, black cap raspberry, red raspberry, currant, gooseberry, dewberry and loganberry.

Hort. 107. *Economic Fruits of the World*—Three credit hours: three lectures. Second term. Senior year. Prerequisites, Hort. 102-103 and 104.

A study is made of the botanical, ecological and physiological characteristics of all species of fruit-bearing plants of economic importance, such as the date, pineapple, fig, olive, banana, nut bearing trees, citrus fruits, newly introduced fruits and the like, with special reference to their cultural requirements in certain parts of the United States and the insular possessions. All fruits are discussed in this course which have not been discussed in a previous course. Open to undergraduate or graduate students.

Hort. 108. *Fruit and Vegetable Judging*—Two credit hours: two laboratory periods. First term. Junior year. Prerequisites, Hort. 101 and 111.

A course designed to train men for fruit judging teams and practical judging. Students are required to know at least one hundred varieties of fruit, and are given practice in judging single plates, largest and best collections, boxes, barrels and commercial exhibits of fruits and vegetables. Students are required to help set up the College fruit show each year.

Hort. 109. *Advanced Fruit Judging*—One credit hour: one laboratory period. First term. Senior year. Prerequisite, Hort. 108.

VEGETABLE GARDENING.

Hort. 111. *Elementary Vegetable Gardening*—Four credit hours: three lectures, one laboratory. Third term. Freshman year.

A study of fundamental principles underlying all garden practices. Each student is given a small garden to plan, plant, cultivate, spray, fertilize, harvest, etc.

Hort. 112. *Tuber and Root Crops*—Three credit hours: two lectures, and one laboratory period. First term. Senior year. Prerequisite, Hort. 111. Open to seniors and graduates.

A study of white potatoes and sweet potatoes, considering seed varieties, propagation, soils, fertilizers, planting, cultivation, spraying, harvesting, storing and marketing.

Hort. 113-114. *Commercial Vegetable Gardening*—Three credit hours: First and second terms. Junior year. Two lectures and one laboratory period. Prerequisite, Hort. 111.

A study of methods used in commercial vegetable production. Each individual crop is discussed in detail. Trips are made to large commercial gardens, various markets and other places of interest.

Hort. 116. *Systematic Olericulture*—Three credit hours: one lecture and two laboratory periods. First term. Senior year. Prerequisites, Hort. 112 and 113-114. Open to seniors and graduates.

A study of the classification and nomenclature of vegetables. Description of varieties, and adaptation of varieties to different environmental conditions.

Hort. 117. *Advanced Vegetable Gardening*—One credit hour: Third term. Senior year. Prerequisites, Hort. 112, 113-114 and 116.

A trip of one week is made to the commercial trucking sections of Maryland, Delaware, New Jersey and Pennsylvania. A study of the markets in several large cities is included in this trip. Students are required to hand in a detailed report of the trip. Such a trip should not exceed thirty dollars per student. The time will be arranged each year with each class.

Hort. 118. *Vegetable Forcing*—Three credit hours: two lectures and one laboratory period. Prerequisite, Hort. 111. Third term. Junior year.

All vegetables used for forcing are considered. Laboratory work in sterilization and preparation of soils, cultivation, regulation of temperature, and humidity, watering, training, pruning, pollination and harvesting.

FLORICULTURE

Hort. 121. *General Floriculture*—Three credit hours: two lectures and one laboratory period. First term. Sophomore year.

The management of greenhouses: the production and marketing of florists crops; retail methods; plants for house and garden.

General course for students desiring knowledge of floriculture but not wishing to specialize in floriculture. Not required of floricultural students.

Hort. 122. *Elementary Floriculture*—Three credit hours: two lectures and one laboratory period. Third term. Sophomore year.

The floricultural industry; evolution and development; present status; the trade and its various divisions; florists' problems.

Hort. 123-124. *Greenhouse Management*—Three credit hours: two lectures and one laboratory period. First term. Two credit hours: one lecture and one laboratory period. Second term. Junior year.

Hort. 125. *Floricultural Practice*. One credit hour: one laboratory period. Third term. Junior year. Prerequisite, Hort. 122-123.

Practical experience in the various greenhouse operations of the spring season.

Hort. 126. *Greenhouse Construction*—Two credit hours: one lecture and one laboratory period. Second term. Junior year. Given 1921-1922.

The various types of houses, their location, arrangement, construction, and cost; principles and methods of heating; preparation of plans and specifications for commercial and private ranges. This course is given every other year.

HORT. 127-128. *Commercial Floriculture*—Three credit hours each term: two lectures and one laboratory period. First and second terms. Senior year. Prerequisite, Hort. 124.

Cultural methods of florists' bench crops and potted plants: the marketing of cut flowers; the retail store; a study of floral decoration.

HORT. 129. *Garden Flowers*—Three credit hours: two lectures and one laboratory period. Third term. Junior year. Given 1921-1922.

Plants for garden use; the various species of annuals, herbaceous perennials, bulbs, bedding plants, and roses and their cultural requirements. This course is given every other year.

LANDSCAPE GARDENING

HORT. 131. *General Landscape Gardening*—Three credit hours: two lectures and one laboratory period. Third term. Sophomore year.

The theory and general principles of landscape gardening and their application to private and public areas. Special consideration is given to the improvement and beautification of the home grounds, farmsteads, and small suburban properties. Adapted to students not intending to specialize in landscape, but who wish some theoretical and practical knowledge of the subject. Open to all students.

HORT. 132. *Plant Materials*—Two credit hours: one lecture and one laboratory period. First term. Junior year. Given 1922-1923.

A field and laboratory study of trees, shrubs and vines used in ornamental planting. Given every other year.

HORT. 133. *Plant Materials*—Two credit hours: one lecture and one laboratory period. Third term. Prerequisite, Hort. 132. Given 1922-1923.

A continuation of Hort. 132 to make the student familiar with woody plants in spring and summer. Given every other year.

HORT. 134. *Elements of Landscape Design*—Three credit hours: one lecture and two laboratory periods. Second term. Junior year.

A consideration of the principles of landscape design; surveys, mapping and field work.

HORT. 135-136. *Landscape Design*—Three credit hours: one lecture and two laboratory periods. First term. Three credit hours; three laboratory periods. Second term. Senior year. Prerequisites, Hort. 132 and 134.

The design of private grounds, gardens and of architectural details used in landscape; planting plans; analytical study of plans of practicing landscape architects; field observation of landscape developments.

HORT. 137. *Landscape Practice*—Three credit hours: one lecture and two laboratory periods. Third term. Senior year. Prerequisites, Hort. 135-136. Tracing and drafting of plans; construction methods; field practice.

HORT. 138. *History of Landscape Gardening*—One credit hour: one lecturer. Second term. Junior year. Given 1922-1923.

Evolution and development of landscape gardening; the different styles and a particular consideration of Italian, English, and American gardens. Given every other year.

HORT. 139. *Civic Art*—Two credit hours: one lecture and one laboratory period. First term. Senior year. Prerequisites, Hort. 134. Given 1921-1922.

Principles of city planning and their application to village and rural improvement, including problems in design of civic center, parks, school grounds, and other public and semi-public areas. Given every other year.

COURSES INTENDED PRIMARILY FOR GRADUATES

HORT. 201. *Experimental Pomology*—Three credit hours. Second term. Lectures, three hours.

A systematic study of the sources of knowledge and opinion as to practices in Pomology; methods and difficulties in experimental work in Pomology and results of experiments that have been or are being conducted in all experiment stations in this and other countries. A limited number of seniors will be allowed to take this course with the approval of the head of the department.

HORT. 202. *Experimental Vegetable Gardening*—Two credit hours. Lectures, two hours. Second term.

A systematic study of the sources of knowledge and opinion as to practices in Vegetable Gardening; methods and difficulties in experimental work in Vegetable Gardening and results of experiments that have been or are being conducted in all experiment stations in this and other countries. A limited number of seniors will be permitted to take this course with the approval of the head of the department.

HORT. 203. *Experimental Floriculture*—Two credit hours. Lectures, two hours. Second term.

A systematic study of the sources of knowledge and opinions as to practices in Floriculture are discussed in this course. The results of all experimental work in Floriculture which have been or are being conducted will be thoroughly discussed. A limited number of seniors will be permitted to take this course with the approval of the head of the department.

HORT. 204. *Methods of Research*—Two credit hours. Lecture, one hour, one laboratory period. Second term.

For graduate students only. Special drill will be given in the making of briefs and outlines of research problems. In methods of procedure in conducting investigational work and in the preparation of bulletins and reports. A study of the origin, development and growth of horticultural research is taken up. A study of the research problems being conducted by the Department of Horticulture will be made, and students will be required to take notes on some of the experimental work in the field and become familiar with the manner of filing and cataloging all experimental work.

HORT. 205-207. *Advanced Horticultural Research and Thesis*—Two, three or four credit hours each term. Hours to be arranged. First, second and third terms.

Graduate students will be required to select problems for original research in either Pomology, Vegetable Gardening, Floriculture or Landscape Gardening. This work is to continue throughout the full year, and final results will be published in the form of a thesis.

HORT. 208-210. *Advanced Horticultural Seminar.*

This course will be required of all graduate students. Students will be required to give reports either on special topics assigned them or on the progress of their own investigational work being done in course 205. Members of the departmental staff will report special research work from time to time.

REQUIREMENTS OF GRADUATE STUDENTS IN HORTICULTURE

Pomology—Graduate students specializing in Pomology who are planning to take an advanced degree will be required either to take or offer the equivalent of the following courses: Hort. 102-103, 104, 107, 201, 204, 205-207 and 208-210; Advanced Plant Physiology 104-6; and Organic Chemistry, 112-113.

Vegetable Gardening—Graduate students specializing in Vegetable Gardening who are planning to take an advanced degree will be required either to take or offer the equivalent of the following courses: Hort. 113-115, 116, 202, 204, 205-207, 208-210; Advanced Plant Physiology 104-6; Organic Chemistry, 112-113.

Floriculture—Graduate students specializing in Floriculture who are planning to take an advanced degree will be required either to take or offer the equivalent of the following courses: Hort. 122-123, 127, 132, 203, 204, 205-207, 208-210; Advanced Plant Physiology 104-6; Organic Chemistry, 112-113.

Landscape Gardening—Graduate students specializing in Landscape Gardening who are planning to take an advanced degree, will be required either to take or offer the equivalent of the following courses: Hort. 132, 133, 134, 135, 137, 204, 205-207, 208-210; Advanced Plant Physiology, 104-6.

Additional Requirements—In addition to the above required courses, all graduate students in Horticulture are advised to take Physical Chemistry.

Unless graduate students in Horticulture have had some course work in Entomology, Plant Pathology and Genetics, certain of these courses will be required.

For Short-Course Students

HORT. 1. *Practical Pomology*—Two lectures and one laboratory period. First term. First year.

A general course covering the propagation of our common fruits. Such subjects as orchard site, location, varieties, planting plans, cultural methods, fertilizer requirements, and picking, packing and marketing are discussed. All of the tree fruits are taken up in this course.

HORT. 2-3. *Commercial Fruit Growing*—Three lectures and one laboratory period. First and second terms. Second year. Prerequisite Hort. 1.

An advanced course dealing with the proper management of commercial orchards in Maryland. Special attention is given to the subjects of pruning,

picking, packing, marketing and storing of the various fruits. Market problems, transportation and shipping associations receive special attention. Students are required to become familiar with all of the leading commercial varieties of all fruits grown in Maryland. Practice is given in fruit judging and the arrangement of fruits for exhibition purposes. Horticultural by-products are given attention in this course.

HORT. 4. *Small Fruits*—Two lectures and one laboratory period. Third term. Second year.

The production of strawberries, bush fruits and grapes is considered. Methods of propagation, selection of sites, soils, pruning, cultivation, picking, packing and marketing are discussed.

HORT. 5. *Home Vegetable Gardening*—Two lectures and one laboratory period. Third term. First year.

The general principles of vegetable gardening as applied to the growing of vegetables for home use. The laboratory work includes a study of vegetable seeds, seed testing, seed sowing, transplanting and the care of plants in the greenhouses and cold-frames. The students are required to plan, plant and manage a large home garden until the end of the term.

HORT. 6-8. *Commercial Vegetable Gardening*—Two lectures and one laboratory period. First, second and third terms. Second year. Prerequisite, Hort. 5.

This course is planned to run the entire school year. A study of the principles of vegetable gardening, as applied to the growing of vegetables for market and for canning. The course includes the construction and management of hot-beds and cold-frames, sowing and planting, cultivation, growing early vegetable plants, soil preparation, harvesting, grading, packing, marketing, canning and storage. Each student is allotted a definite area and is required to plan, plant and manage it.

HORT. 9. *Landscape and Floriculture*—Two lectures and one laboratory. Second term. First year.

The principles of landscape gardening and their application to the improvement of home grounds. The propagation and culture of garden and greenhouse plants.

HORT. 10-12. *Commercial Floriculture*—Two lectures and one laboratory period. First, second and third terms. Second year. Prerequisite, Hort. 9.

This course is planned to run the full school year. Studies in the propagation and culture of commercial florist crops are taken up in this course. Methods of packing, shipping and marketing will be considered. The course is so organized as to fit students for commercial work.

HORT. 13-14. *Landscape Design and Practice*—Two lectures and three laboratory periods. First and second terms. Second year. Prerequisite, Hort. 13.

The composition of gardens, private estates and related problems. Grading plans, construction, drawing, estimates and laying out of grounds are considered. Plant materials are thoroughly studied in this course also.

PLANT PATHOLOGY

PLT. PATH. 101. *General Plant Pathology*—Three credit hours: two lectures and one laboratory period. First term. Junior year.

An introductory study, in laboratory and field, of symptoms, causal organisms and control measures of horticultural and field-crop diseases.

For Advanced Undergraduates and Graduates

PLT. PATH. 102-104. *Methods and Minor Problems in Plant Pathology*—Credit to be arranged. Prerequisite, Plt. Path. 101 and General Bacteriology.

Technique in plant disease investigations including, the preparation of manuscripts for publication. The work will be adjusted to the requirements of the student. The senior thesis may be included as a part of this course. (Temple.)

PLT. PATH. 105-107. *Advanced Plant Pathology*—Four credit hours each term: two lectures and two laboratory periods.

A detailed study: first term, diseases of fruits; second term, diseases of truck crops; third term, diseases of cereal and forage crops. The full course is intended to give a rather thorough knowledge of the subject, such as is needed by those who expect to become advisers in crop production as well as those who expect to become specialists in plant pathology. (Temple.)

PLT. PATH. 108-110. *Seminar in Plant Pathology*—One credit hour each term.

Conferences and reports on plant pathological literature and recent investigations.

PLT. PATH. 202. *Research in Plant Pathology*—Credit according to work done.

Original investigations of special problems. (Temple.)

For Short-Course Students

PLT. PATH. 1. *Plant Diseases*—Three credit hours: two lectures and one laboratory period. First term. Second year.

A general elementary course covering the identification and control of the diseases of economic crops. Frequent field trips.

PLANT PHYSIOLOGY AND BIO-CHEMISTRY

PLANT PHYSIOLOGY

For Undergraduates

PLT. PHY. 101-102. *Plant Physiology*—Four credit hours: two lectures and two laboratory periods. Second term. Three credit hours: two lectures and one laboratory period. Third term. Sophomore year. Prerequisite, Gen. Bot. 101-102.

Water requirements, principles of absorption, mineral nutrients, transpiration, synthesis of food, metabolism, growth, movements.

PLT. PHYS. 103. *Plant Ecology*—Three credit hours: one lecture and two laboratory periods. Third term. Prerequisite, Bot. 101-102.

The study of plants in relation to their environments. Plant formations and successions in various parts of the country are briefly treated. Much of the work, especially the practical, must be carried on in the field, and for this purpose type regions adjacent to the University are selected. It is generally necessary to take three or four trips at some distance from the University, in which case Saturdays are used for that purpose.

For Advanced Undergraduates and Graduates

PLT. PHYS. 104-106. *Advanced Plant Physiology*—Four credit hours each term: two lectures and two laboratory periods. Junior or Senior year. Prerequisite, Plt. Phys. 101.

A detailed study of all life processes of plants. The laboratory work generally consists of special work on one or more problems that may continue through the year. Students who write these for their undergraduate degrees, get the data from special problems assigned for the laboratory work.

For Graduates

✓ PLT. PHYS. 201. *Plant Bio-physics*—Three credit hours: two lectures and one laboratory period. Second term. Prerequisites, one year's work in Physics and an elementary knowledge of Physical Chemistry and Plant Physiology.

An advanced study of the operation of physical forces in plant physiological processes. The relation of climatic conditions to plant growth and practice in recording meteorological data constitute a part of the course. (Johnston.)

✓ PLT. PHYS. 202. *Special Problems in Growth and Reproduction*—Two credit hours. Second term. (Appleman.)

PLT. PHYS. 203. *Advanced Physiological Methods and Measurements*—Two credit hours. Third term. Not given every year. (Appleman, Johnston.)

✓ PLT. PHYS. 204-206. *Seminar*—One credit hour each term. The students are required to prepare reports of papers in the current literature. These are discussed in connection with the recent advance in the subject. (Appleman.) F 4:00

✓ PLT. PHYS. 207. *Research*—Credit hours according to work done. Students must be specially qualified by previous work to pursue with profit the research to be undertaken. (Appleman, Johnston.)

BIO-CHEMISTRY

For Advanced Undergraduates and Graduates

BIO-CHEM. 101. *Physiological Chemistry*—Four credit hours. Two lectures and two laboratory periods. First term. Prerequisites, Gen'l Chem. 101-103, 105-106 or their equivalents; also an elementary knowledge of Organic Chemistry.

A general course in chemical biology. It embraces a study of biocolloids and their role in physiological processes; cell organization from the standpoint of the substratum in which living processes occur; chemistry of protoplasm and its products; catalysis and enzymes; electrolytes and their action; requirements of foods, including vitamins; and a general consideration of metabolism. (Appleman, Miller.)

BIO-CHEM. 102. *Plant Bio-chemistry*. Three credit hours. Two lectures and one laboratory period. Third term. Prerequisites, Bio-chem. 101 and an elementary knowledge of Plant Physiology.

An advanced course dealing with the chemistry of plant life. Synthesis and transformations of materials in plants and plant organs and the relation of plant processes to animal food and nutrition are especially emphasized. The course also embraces the chemistry of organic compounds. (Appleman, Miller.)

POULTRY HUSBANDRY

P. H. 101. *Farm Poultry*—Three credit hours: two lectures and one laboratory period. Third term. Junior year.

Care of poultry on the general farm, including housing, feeding, incubation, brooding, breeds, breeding, selection of stock, culling, general management, and marketing.

For Short-Course Students

P. H. 1. *Farm Poultry*—Three credit hours: two lectures and one laboratory period. Third term. Second year.

A general course dealing with care of farm poultry, treating on breeds and breeding, selection of the stock, housing, feeding, incubation and brooding, culling, marketing, and management.

SOILS

GEOL. 101. *General Geology*—Three credit hours: two lectures and one laboratory period. First term. Sophomore year.

A text book, lecture, and laboratory course, dealing with the principles of geology and their application to agriculture. While this course is designed primarily for agricultural students in preparation for technical courses, it may also be taken as a part of a liberal education.

SOILS 101-102. *Principles of Soil Management*—Three credit hours: two lectures and one laboratory period. Second and third terms. Sophomore year. Prerequisite, Geol. 101.

A study of the physical, chemical and biological principles underlying the formation and management of soils. The mechanical composition, classification, and physical properties as related to moisture, temperature, air, organic matter, and tillage are concerned. The mixing and applying of commercial plant nutrients, the use of green and stable manures and of lime are discussed. The influence of continuous cropping, rotations, and fertilizers on the productivity of the soil are studied.

SOILS 103-105. *Soil Fertility and Fertilizers*—Three credit hours: one lecture and two laboratory periods. Farm manures the first and second terms; commercial fertilizers the third term. Junior year. Prerequisite, Soils 101-102. Alternate years. Not given in 1922-23.

The object of this course is to familiarize the student with the details of soil management. It includes the practical application of the principles of

soil physics to methods of tillage and cropping and a study of the factors governing the use of manures and fertilizers. The practical work includes special studies of the soils from the college station farms that have been subjected to various treatments.

SOILS 106. *Soil Surveying and Classification*—Three credit hours: one lecture and two laboratory periods. First term. Senior year. Prerequisite, Soils 101-102.

A study of the principal soil regions, series, and types of the United States, and especially of the soils of Maryland, as to formation, composition, and value agriculturally. The practical work consists chiefly in identification of soils types and in map making.

SOILS 107. *Soil Bacteriology*—Four credit hours: two lectures and two laboratory periods. Third term. Junior year. Prerequisite, Bact. 101-102. Alternate years. Not given 1922-23.

A study of the micro-organisms of the soil in relation to fertility. It includes the study of the bacteria of the soil concerned in the decomposition of organic matter, nitrogen fixation, nitrification, sulfification, and the injurious organisms.

SOILS 108-110. *Thesis*—Two credit hours. The senior year.

Some special problem is assigned to each student, who is expected to embody the results of the investigation in a thesis.

For Advanced Undergraduate and Graduate Students

SOILS 111-113. *Soil Technology*—Three credit hours: one lecture and two laboratory periods. The year. Prerequisites, Soils 101-102; Chemistry 101-103. Alternate years. Not given in 1921-22.

A study of methods used by experiment stations in soil investigational work. (McCall and Bruce.)

SOILS 114. *Methods of Soil Investigation*—Two credit hours. Third term. The course includes a critical study of the methods used by experiment stations in soil investigational work. (McCall and Bruce.)

SOILS 115-116. *Seminar*—One credit hour. Second and third terms. The seminar periods are devoted largely to the discussion of the current bulletins and scientific papers on soil topics. (McCall and Bruce.)

For Graduate Students

SOILS 201-203. *Special Problems and Research*—Five to ten credit hours. The year. Lectures and Practice to be arranged. Original investigations of problems in soils and fertilizers. (McCall.)

For Short-Course Students

SOILS 1. *Soil Management*—Three credit hours: two lectures and one laboratory period. Third term. First year.

A study of the physical and chemical conditions of soils in their relation to profitable agriculture. Special attention is given to the application of physics and chemistry to the management of Maryland soils.

SOILS 2. *Manures and Fertilizers*—Three credit hours: two lectures and one laboratory period. First term. Second year.

Lectures and recitations on the care and utilization of farm manures; on the sources of fertilizers materials; on methods of valuation and the effect of fertilizers on different farm crops.

College of Arts and Sciences

The aim of the College of Arts and Sciences is twofold:

1. To lay a foundation for the learned and technical professions and give training in those phases of economics that enlarge the capacity of men and women for handling modern business problems.
2. To increase knowledge of the broader and cultural phases of learning.

This College furnishes curricula which develop a liberal education in the languages and literatures, the sciences, mathematics, philosophy, history, politics, economics, and sociology. It likewise offers excellent opportunities to students preparing to enter Schools of Law and Medicine.

The College includes the following departments:

Ancient Language and Philosophy.
Business Administration and Commerce.
Chemistry.
English Language, Literature, and Journalism.
Economics and Sociology.
General Botany.
History and Political Science.
Library Science.
Mathematics.
Modern Languages and Literature.
Music.
Physics.
Public Speaking.
Zoology and Aquiculture.
The Pre-Medical Curriculum.

ADMISSION

The admission of students is in charge of the University Committee on Student Enrollment and Entrance, which determines the credits which shall be issued on all entrance examinations and certificates.

REQUIREMENTS FOR BACCALAUREATE DEGREE

The College of Arts and Sciences confers two baccalaureate degrees:

1. Bachelor of Arts.
2. Bachelor of Science.

GENERAL REQUIREMENTS

In order to be recommended for the degree of Bachelor of Arts or Bachelor of Science, the candidate must first have satisfied the requirements for admission; and second, have obtained a prescribed minimum number of college credits.

The "trimester hour" is the standard for computing the amount of work required for graduation in the curricula leading to these baccalaureate degrees. The "hour" represents one recitation hour each week during a term. Two or three hours of laboratory or field work are counted as equivalent to one lecture or recitation.

A baccalaureate degree in this College may be conferred upon a student who satisfies all entrance requirements and secures credit for a minimum of two hundred and four trimester hours according to the following provisions, except for those majoring in Chemistry or Business Administration, for which there are special requirements. Freshman and Sophomore years for those registering for the Bachelor of Arts degree are coordinated as follows:

FRESHMAN YEAR

	Term: I	II	III
Composition and Rhetoric (Eng. 101-103).....	3	3	3
Reading and Speaking (Pub. Sp. 101-103).....	1	1	1
Foreign Language (Gk. 1-3; Gk. 101-103; Lat. 101-103; Fren. 1-3; Fren. 101-103; Ger. 1-3; Germ. 101-103; Span. 101-103).....	3	3	3
Gen. Chem. and Qual. Anal. (Inorg. Chem. 101-103)....	4	4	4
Algebra (Math. 106).....	3	..	..
Plane Trigonometry (Math. 107).....	..	3	..
Plane Analytic Geometry (Math. 108) or Solid Geometry (Math. 111).....	..	..	3
Modern and Contemporary History (H. 109-111).....	3	3	3
Library Methods (L. S. 101).....	1	..	..
Military Science (M. I. 101).....	2	2	2
*General Zoology (Zool. 101-102).....	4	4	..
*Entomology (Zool. 107) or General Botany (Bot. 101)...	..	..	4

*Required in the Pre-Medical curriculum.

SOPHOMORE YEAR

	Term: I	II	III
*Modern Poets and Browning (Eng. 107-109).....	3	3	3
*American Literature (Eng. 110-112).....	3	3	3
*History of English Literature (Eng. 119-121).....	3	3	3
Public Speaking (Pub. Sp. 104-106).....	1	1	1
Foreign Language (continued).....	3	3	3
†Social Psychology (Soc. 104-105).....	3	3	..
†Logical Aspects of Sociology (Soc. 106).....	..	..	3
†Elements of Economics (Econ. 101-103).....	3	3	3
National Government (Pol. Sc. 101).....	3	..	..
State and Local Government (Pol. Sc. 102).....	..	3	..
Municipal Government (Pol. Sc. 103).....	..	..	3
General Zoology (Zool. 101-102).....	4	4	..
†Entomology (Zool. 107).....	..	..	4
†General Botany (Bot. 101).....	..	2	4
Military Science (M. I. 102).....	2	2	2

*Select one of these.

†Select one of these.

‡Select one of these.

Junior and Senior Years

At the beginning of the Junior year every candidate for the Bachelor of Arts degree shall select a major study in group A or B, in which he shall complete from twenty-five to forty per cent of the total number of hours necessary for graduation. Candidates for the Bachelor of Science degree shall select a major study in group B, C, or D. Candidates for the degree of Bachelor of Science, majoring in Chemistry, see Chemistry curricula. Candidates for the degree of Bachelor of Science in Economics, majoring in Business Administration and Commerce, see curricula of Business Administration and Commerce. All candidates shall elect subjects with a direct bearing upon the major amounting to twenty or thirty per cent of the total number of hours necessary for graduation.

GROUPS OF STUDIES

A. Languages and Literature: English, Latin, Greek, French, German, Spanish, Journalism, Public Speaking.

B. Social Sciences: Economics, History, Philosophy, Psychology, Political Science, Sociology, Commerce, Business Administration.

C. Biological Sciences: Bacteriology, Botany, Entomology, Physiology, Zoology.

D. Physical Sciences: Chemistry, Geology.

E. Mathematics and Physics.

COMMERCE AND BUSINESS ADMINISTRATION

As a result of the increasingly differentiated economic development of this country and other countries and owing to the concomitant development of higher and more complex forms of business organization, the last two decades have witnessed the origin and growth of the full four-year curriculum whose aim is to furnish specialized professional training for those who wish to enter upon a business career, very much in the same way as schools of law and medicine provide specialized training for lawyers and medical men.

As at present organized, this department offers what is practically a four-year curriculum having this special aim. However, the first year is coincident with the first year of the College of Arts and Sciences; i. e., subject to same conditions of entrance and required subjects. In other words, the student who wishes to major in business administration and commerce does not enter upon this specialization until the beginning of his sophomore year.

The student will receive four years of training sufficiently broad to be well-balanced and at the same time sufficiently specialized to equip for any modern business.

The following arrangement of studies, therefore, presupposes one year of college work, which will be the freshman year in the College of Arts and Sciences. The last three years, however, should include substantially what is here outlined:

SOPHOMORE YEAR

	Term:	I	II	III
Modern Language.....		3	3	3
National Government (Pol. Sc. 101).....		3	..	..
State and Local Government (Pol. Sc. 102).....		..	3	..
Municipal Government (Pol. Sc. 103).....		..	..	3
Elements of Economics (Econ. 101-103).....		3	3	3
Social Psychology (Soc. 104-105).....		3	3	..
Logical Aspects of Sociology (Soc. 106).....		..	..	3
Public Speaking (Pub. Sp. 104-106).....		1	1	1
R. O. T. C. (M. I. 102).....		2	2	2
Current History (His. 101-103).....		1	1	1
English (Eng. 104-106).....		2	2	2

JUNIOR YEAR

	Term:	I	II	III
Business Organization (Com. 113).....		3	..	..
Business Management (Com. 114).....		..	3	..
Purchasing and Selling (Com. 115).....		..	..	3
Corporation Finance (Econ. 103).....		3	..	..
Money and Banking (Econ. 104).....		..	3	..
Commerce and Finance (Practicum) or Markets and Marketing.....		..	..	3
Diplomacy (Pol. Sc. 113-115).....		3	3	3
Business Law (Com. 110-112).....		3	3	3
Accounting (101-103 (104-106).....		3	3	3
Group Electives.....		3	3	3

SENIOR YEAR

	Term:	I	II	III
Constitutional Law (Pol. Sc. 106-108).....		3	3	3
Markets and Marketing (Econ. 107) or Commerce and Finance.....		..	..	3
Group Electives.....		9	9	9
Free Electives.....		6	6	6

Elective Groups

Accounting (Com. 101-103).....	3	3	3
Advanced Accounting (Com. 104-106).....	3	3	3
Commercial Mathematics (Com. 107-109).....	3	3	3
Social Psychology (Soc. 104-105).....	3	3	..
Logical Aspects of Sociology (Soc. 106).....	..	..	3
General Sociology (Soc. 101-102).....	3	3	..
Business Law (Com. 110-112).....	3	3	3
Modern Language.....	3	3	3
International Law (Pol. Sc. 116-118).....	3	3	3
Current History (His. 101).....	1	1	1
General History.....	3	3	3
Public Speaking.....	2	2	2

CHEMISTRY

The Department of Chemistry of the College of Arts and Sciences offers courses in Inorganic, Organic, Physical, Analytical and Industrial Chemistry; and also includes the State control work of fertilizers, feed and lime analysis.

The above named courses, which include the basic principle of Chemistry, serve as a necessary part of a general education, and are designed to lay a foundation for scientific and technical work; such as medicine, engineering, agriculture, etc.

Besides serving in this fundamental way the courses are grouped to train chemists for the following careers:

1. *Industrial Chemist*—Chemistry is becoming more and more to be realized as the basis of many industries. Many apparently efficient chemical industries have become greatly improved by the application of modern chemistry. Chemical corporations employ chemists to manage and develop units of their plants.

A curriculum as preparation for Industrial Chemist is given below.

2. *Agricultural Chemist*—The curriculum suggested on page 87 fits men to carry on work in Agricultural Experiment stations, Bureau of Soils, food laboratories, geological surveys, etc.

3. *Teacher of Chemistry*—There is a growing need of suitably trained science teachers in schools. The curriculum on page 88 not only furnishes the necessary science but also names the educational subjects which are required to obtain the Special Teachers Diploma.

The same curriculum together with graduate work will fit a man to teach in college or university.

4. *Research Chemist*—The more progressive corporations have established chemical research laboratories. These laboratories are run with the main purpose of improving old processes and devising new ones. Highly trained chemists have charge of these laboratories. The general chemistry curriculum elsewhere is for the undergraduate work, but for these positions work leading to a Master of Science or a Doctor of Philosophy degree is advised.

INDUSTRIAL CHEMISTRY

SOPHOMORE YEAR	Term:	I	II	III
Physics (Phys. 101-103).....		5	5	5
Plane Analytic Geometry (Math. 109).....		3	..	..
Calculus (Math. 110).....		..	3	3
Modern Language (M. L. 104-106, 124-126).....		3	3	3
Advanced Qualitative Analysis (Anal. Chem. 101).....		4	..	..
Quantitative Analysis (Anal. Chem. 102-103).....		..	4	4
Descriptive Geometry (Dr. 104).....		2	..	..
Machine Shop (Shop 101).....		..	2	..
Plane Surveying (Surv. 101).....		..	..	2
Military Science (R. O. T. C.).....		2	2	2

JUNIOR YEAR				
	Term:	I	II	III
Organic Chemistry (Org. Chem. 105-107).....		4	4	4
Quantitative Analysis (Anal. Chem. 104-105).....		3	3	..
Mineralogy and Assaying (Ind. Chem. 111).....		..	..	3
Chemical Calculations (Anal. Chem. 106).....		1	1	1
Engineering Mechanics (Mech. 101-103).....		3	3	3
Engineering Geology (Geol. 101-103).....		1	1	1
Advanced Composition (Eng. 104-106).....		2	2	2
Economics (Econ. 101-103).....		3	3	3

SENIOR YEAR				
	Term:	I	II	III
Physical Chemistry (Phys. Chem. 101-102).....		4	4	..
Electro Chemistry (Phys. Chem. 104).....		..	..	4
Colloidal Chemistry (Phys. Chem. 103).....		..	..	4
Industrial Chemistry (Ind. Chem. 115-117).....		2	2	2
Metallurgical Analysis (Ind. Chem. 113-114).....		3	3	..
Metallurgical Calculations (Ind. Chem. 112).....		1	1	1
Prime Movers (Engr. 107-109).....		3	3	3
Engineering Jurisprudence (Engr. 101-103).....		1	1	1
Electives in Engineering.....		3-4	3-4	3-4

NOTE: The Freshman year for those majoring in Chemistry is the same as for other students in the College of Arts and Sciences

AGRICULTURAL CHEMISTRY

SOPHOMORE YEAR				
	Term:	I	II	III
Physics (Phys. 101-103).....		5	5	5
Plane Analytic Geometry (Math. 109).....		3	..	..
Calculus (Math. 110).....		..	3	3
Modern Language (M. L. 104-106, 124-126).....		3	3	3
Advanced Qualitative Analysis (Anal. Chem. 101).....		4	..	..
Quantitative Analysis (Anal. Chem. 102-103).....		..	4	4
Zoology (Zool. 101-102).....		3	3	..
Botany (Bot. 101).....		..	..	4
Military Science (R. O. T. C.).....		2	2	2

JUNIOR YEAR				
	Term:	I	II	III
English (Eng. 104-106).....		2	2	2
Economics (Econ. 101-103).....		3	3	3
Organic Chemistry (Org. Chem. 105-107).....		4	4	4
Quantitative Analysis (Anal. Chem. 104-105).....		3	3	..
Chemical Calculations (Anal. Chem. 106).....		1	1	1
Bacteriology (Bact. 101-102).....		..	..	3
Electives.....		4	4	4
Group 1				
Cereal Crops (Agro. 101).....		4	..	..
Plant Physiology (Plt. Phys. 101-102).....		..	4	3
Forage Crops (Agro. 103).....		..	..	4

JUNIOR YEAR—Continued.				
	Term:	I	II	III
Group 2				
Geology (Soils 101).....		3	..	..
Soils (Soils 102-103).....		..	3	3

Group 3				
Feeds and Feeding (A. H. 102).....		3	3	..
Animal Husbandry (A. H. 102).....		..	4	..
Principles of Dairying (D. H. 101).....		..	..	4
Forage Crops (Agro. 101).....		..	..	3

SENIOR YEAR				
	Term:	I	II	III
Physical Chemistry (Phys. Chem. 101-102).....		4	4	..
Colloidal Chemistry (Phys. Chem. 103).....		..	..	4
Agricultural Chemistry (Ind. Chem. 104-106).....		2	2	2
Agricultural Chemical Analysis (Ind. Chem. 107-109)...		3	3	3
Biological Chemistry (Bio. Chem. 101-102).....		4	..	3
Electives in Agriculture.....		4-5	8-9	5-6

GENERAL CHEMISTRY.

SOPHOMORE YEAR				
	Term:	I	II	III
Physics (Phys. 101-103).....		5	5	5
Plane Analytic Geometry (Math. 109).....		3	..	..
Calculus (Math. 110).....		..	3	3
Modern Language (M. L. 104-106, 124-126).....		3	3	3
Advanced Qualitative Analysis (Anal. Chem. 101).....		4	..	..
Quantitative Analysis (Anal. Chem. 102-103).....		..	4	4
Zoology (Zool. 101-102).....		3	3	..
Botany (Bot. 101).....		..	..	4
Military Science (R. O. T. C.).....		2	2	2

JUNIOR YEAR				
	Term:	I	II	III
English (Eng. 104-106).....		2	2	2
Economics (Econ. 101-103).....		3	3	3
Organic Chemistry (Org. Chem. 105-107).....		4	4	4
Quantitative Analysis (Anal. Chem. 104-105).....		3	3	..
Chemical Calculations (Anal. Chem. 106).....		1	1	1
Bacteriology (Bact. 101).....		..	..	3
*Electives.....		4-5	4-5	4-5

SENIOR YEAR				
	Term:	I	II	III
Physical Chemistry (Phys. Chem. 101-102).....		4	4	..
Physical Chemistry (Phys. Chem. 104).....		..	..	4
Colloidal Chemistry (Phys. Chem. 103).....		..	..	4
Biological Chemistry (Bio. Chem. 101).....		4	..	..
Electives in Chemistry.....		4	4	4
*Electives.....		5-6	9-10	5-6

*Elective groups are offered in Education, Arts, Political Science and Science.

THE PREMEDICAL CURRICULUM

The Premedical Curriculum includes the subjects and hours prescribed by the Council on Medical Education of the American Medical Association, together with additional subjects and hours totalling 117 to 120 trimester hours. Students entering the School of Medicine of the University of Maryland are required to present the credits obtained by the successful completion of this curriculum or its equivalent in 1923. In 1921 and 1922 all students must satisfy the sixty (60) semester hour requirement of the Council on Medical Education of the American Medical Association.

In addition a combined seven year curriculum is offered leading to the degrees of Bachelor of Science and Doctor of Medicine. The first three years are taken in residence at College Park and the last four years in Baltimore at the Medical School. The Premedical Curriculum constitutes the first two years' work and a third year following the general outline given below, with the electives approved by the chairman of the Premedical curriculum and the Dean of the College of Arts and Sciences, completes the studies at College Park.

Upon the successful completion of the first year in the Medical School and the recommendation of the Dean, the degree of Bachelor of Science may be conferred by the College of Arts and Sciences at College Park.

Students are urged to consider carefully the advantages this combination course offers over the minimum requirements of the two years. By completing three years, the training may be greatly broadened by a wider latitude in the election of courses in the arts subjects.

Requirements for admission to the Premedical Curriculum may be found on pages 90 and 91.

PRE-MEDICAL CURRICULUM

Two Years

FRESHMAN YEAR

Term:	I	II	III
General Zoology (Zool. 101-103 and 101a, 101b, 103c)...	4	4	4
Chemistry (Chem. 101-103).....	4	4	4
French or German (Fren. or Ger. 101-103).....	3	3	3
Composition (Eng. 101-103).....	3	3	3
Mathematics (Math. 106-107-108 or 111).....	3	3	3
Public Speaking (Pub. Sp. 101-103).....	1	1	1
R. O. T. C.....	2	2	2

SOPHOMORE YEAR

Term:	I	II	III
Embryology (Zool. 104-105).....	4	4	..
Comparative Morphology of the Vertebrates (Zool. 106) ..	..	..	4
Organic Chem. (Org. Chem. 105-106).....	4	4	..
Quantitative Analysis (Anal. Chem. 107).....	..	..	4
Physics (Phys. 104-106).....	4	4	4
French or German (104-106).....	3	3	3
Composition, History, Literature or Sociology (Elect one)	2-3	2-3	2-3
R. O. T. C.....	2	2	2

Combined Seven-Year Course

JUNIOR YEAR

Term:	I	II	III
Required			
*Advanced Composition (Eng. 104-106).....	2	2	2
Group B—(College of Arts and Sciences).....	3	3	3
Group Electives—			
Science (Bacteriology, Botany, Chemistry, Entomology, Genetics, Mathematics and Zoology).....	6	6	6
Non-Science.....	7	7	7

SENIOR YEAR

The curriculum of the first year of the Medical School.

*Students who elected Advanced Composition in the second year of the Pre-Medical curriculum are not required to take this course.

REQUIREMENTS FOR ENTRANCE

Admission to the curriculum in medicine is by a completed Medical Student Certificate issued by the Registrar of the University of Maryland. This certificate is obtained on the basis of satisfactory credentials, or by examination and credentials, and is essential for admission to any class.

The requirements for the issuance of the Medical Students Certificate are:

(a) The completion of a standard four-year high school course or the equivalent, and in addition:

(b) Two years, sixty semester, or ninety trimester hours, of college credits, including chemistry, biology, physics and English in 1921 and 1922. In 1923 the completion of 117 to 120 trimester hours as outlined in the Premedical Curriculum, or its equivalent, will be required.

Women are admitted to the Medical School of this University.

(a) Details of the High School Requirements

For admission to the Premedical Curriculum, students

1. Shall have completed a four-year course of 15 units in a standard accredited high school or other institution of standard secondary school grade, or;
2. Shall have the equivalent as demonstrated by successfully passing entrance examinations in the following subjects:

Credits for admission to the premedical college course may be granted for the subjects shown in the following list and for any other subject counted by a standard accredited high school as a part of the requirement for its diploma, provided that at least eleven units must be offered in Groups I-V:

Schedule of Subjects Required or Accepted for Entrance to the Premedical Curriculum

<i>Subjects</i>	<i>Units</i>	<i>Required</i>
GROUP I.—English:		
Literature and composition	3-4	3
GROUP II.—FOREIGN LANGUAGES:		
Latin	1-4	..
Greek	1-3	*2
French or German	1-4	..
Other foreign languages	1-4	..
GROUP III.—MATHEMATICS:		
Elementary Algebra	1	1
Advanced Algebra	$\frac{1}{2}$ -1	..
Plane Geometry	1	1
Solid Geometry	$\frac{1}{2}$	..
Trigonometry	$\frac{1}{2}$	..
GROUP IV.—HISTORY:		
Ancient History	$\frac{1}{2}$ -1	..
Medieval and Modern History	$\frac{1}{2}$ -1	..
English History	$\frac{1}{2}$ -1	1
American History	$\frac{1}{2}$ -1	..
Civil Government	$\frac{1}{2}$ -1	..
GROUP V.—SCIENCE:		
Botany	$\frac{1}{2}$ -1	..
Zoology	$\frac{1}{2}$ -1	..
Chemistry	1	..
Physics	1	..
Physiography	$\frac{1}{2}$ -1	..
Physiology	$\frac{1}{2}$ -1	..
Astronomy	$\frac{1}{2}$	..
Geology	$\frac{1}{2}$ -1	..
GROUP VI.—MISCELLANEOUS:		
Agriculture	1-2	..
Bookkeeping	$\frac{1}{2}$ -1	..
Business Law	$\frac{1}{2}$	..
Commercial Geography	$\frac{1}{2}$ -1	..
Domestic Science	1-2	..
Drawing.—Freehand and Mechanical	$\frac{1}{2}$ -2	..
Economics and Economic History	$\frac{1}{2}$ -1	..
Manual Training	1-2	..
Music.—Appreciation or Harmony	1-2	..
Stenography	1	..

*Both of the required units of Foreign Language must be of the same language, but the two units may be presented in any one of the languages specified.

Of the fifteen units of high school work, eight units are required, as indicated in the foregoing schedule; the balance may be made up from any of the other subjects in the schedule.

(b) Details of the College Requirements

1. The preliminary college curriculum shall extend through two college sessions of at least thirty-two weeks each of actual instruction.

2. In excellence of teaching and in content, the work of this preliminary college curriculum shall be equal to the work done in the freshman and sophomore years in standard colleges and universities.

SCHEDULE OF SUBJECTS OF THE TWO-YEAR PRE-MEDICAL COLLEGE COURSE

Minimum requirements for 1921 and 1922, 60 semester* or 90 trimester hours required.

For 1923 requirements, see Pre-Medical Curriculum, page 89.

<i>Required Subjects:</i>	<i>Semester Hours</i>
Chemistry (a)	12
Physics (b)	8
Biology (c)	8
English Composition and Literature (d)	6
Other Non-Science Subjects (e)	12
<i>Subjects Strongly Urged:</i>	
French or German (f)	6-12
Advanced Botany or Advanced Zoology	3-6
Psychology	3-6
Advanced Mathematics, including Algebra and Trigonometry ..	3-6
Additional Courses in Chemistry	3-6
<i>Other Suggested Electives:</i>	
English (additional), Economics, History, Sociology, Political Science Logic, Mathematics, Latin, Greek, Drawing.	

*A semester hour is the credit value of sixteen weeks' work consisting of one lecture or recitation period per week (each period to be not less than fifty minutes net); at least two hours of laboratory work to be considered as the equivalent of one lecture or recitation period.

Suggestions Regarding Individual Subjects

(a) *Chemistry*—Twelve semester hours required, of which at least eight semester hours must be in general inorganic chemistry, including four semester hours of laboratory work. In the interpretation of this rule work in qualitative analysis may be counted as general inorganic chemistry. The remaining four semester hours may consist of additional work in general chemistry or of work in analytic or organic chemistry.

(b) *Physics*—Eight semester hours required, of which at least two must be laboratory work. It is urged that this course be preceded by a course in trigonometry. This requirement may be satisfied by six semester hours of college physics, of which two must be laboratory work, if preceded by a year (one unit) of high school physics.

(c) *Biology*—Eight semester hours required, of which four must consist of laboratory work. The requirement may be satisfied by a course of eight semester hours in either general biology or zoology, or by courses of four semester hours each in zoology and botany, but not by botany alone.

(d) *English Composition and Literature*—The usual introductory college course of six semester hours, or its equivalent, is required.

(e) *Nonscience Subjects*—Of the sixty semester hours required as the measurement of two years of college work, at least eighteen, including the six semester hours of English should be in subjects other than the physical, chemical or biologic sciences.

(f) *French or German*—A reading knowledge of one of these languages is strongly urged. If the reading knowledge in one of these languages is obtained on the basis of high school work, the student is urged to take the other language in his college course. It is not considered advisable, however, to spend more than twelve of the required sixty semester hours on foreign languages. In case a reading knowledge of one language is obtained by six semester hours of college work, another six semester hours may be well spent in taking the beginner's course in the other language; if this is followed up by a systematic reading of scientific prose, a reading knowledge of the second language may be readily acquired. When a student spends more than two years in college he may well spend twelve semester hours of his college work in the second language.

DESCRIPTION OF COURSES

ENGLISH LANGUAGE AND LITERATURE

For Short-Course Students

ENG. 1-2. *Practical Composition*—Three credit hours. First and second terms. Prerequisites, minimum entrance requirements for short-course students.

Elements, thought processes, types, structure, grammar, mechanical details and common errors of plain composition. Study and preparation of commercial letters, forms, articles, reports, and advertisements. Regular practice in long and short themes.

ENG. 3. *Practical Composition*—Two credit hours. Third term.
A continuation of Eng. 1-2.

For Undergraduates

ENG. 101-103. *Composition and Rhetoric*—Three credit hours each term. Three terms. Freshman year. Prerequisites, minimum entrance requirements in English. (Required of all four-year students.)

Parts, principles, and conventions of effective thought communication. Reading, study, and analysis of standard contemporary prose specimens. Short papers and term themes.

ENG. 104-106. *Advanced English Composition*—Two credit hours each term. Three terms. Prerequisite, Eng. 101-103.

Lectures on principles of composition. Study and analysis of the best scientific essays. Practice in expository writing. Term themes and monographs.

ENG. 107-108. *Modern Poets*—Three credit hours each term. First and second terms. Prerequisite, Eng. 101-103.

Lectures on the nature and function of poetry. Reading from wide variety of English and American lyric poets of recent time. Studies in literary personalia and poetical analysis.

ENG. 109. *Poems of Robert Browning*—Three credit hours. Third term.

A continuation of Eng. 107-108. The shorter poems of Browning read and discussed.

ENG. 110-112. *American Literature*—Three credit hours. Three terms.
Prerequisite, Eng. 101-103.

1. American poetry.

2. American essay, oration, and debate.

3. American short story.

Lectures on growth of American Literature. Reports on assigned topics.
Term themes.

ENG. 113-114. *The Novel*—Three credit hours each term. First and second terms. Prerequisite, Eng. 101-103.

Lectures on the principles of narrative structure and style. Class reviews of selected novels, chiefly from English and American sources. Some account of the history of the development of English fiction.

ENG. 115. *English and American Essays*—Three credit hours. Third term.
(Designed to follow Eng. 113-114.)

A study of the philosophical and critical essays of England and America: Bacon, Lamb, McCauley, Carlyle, Ruskin, Chesterton, Emerson.

ENG. 116-118. *The Drama*—Three credit hours each term. Three terms.
Prerequisite, Eng. 101-103.

1. Shakespeare: an intensive study of a few selected plays. 2. A study of twenty representative American plays. 3. Representative English dramas, noting the growth of the best English productions from the Restoration to the present time.

ENG. 119-121. *History of English Literature*—Three credit hours each term. Three terms.

A general survey of the subject with wide readings of English Classics.

ENG. 122-124. *Journalism*—One credit hour each term. Three terms.
Prerequisite, Eng. 101-103.

1. Study and criticism of the modern newspaper; lectures on the editorial, mechanical, and business divisions and on the classification of duties and responsibilities. Introduction to news writing. Class practice and assignments. 2. Types of news stories, new sources, and editorial theory and practice, including copy reading, proof reading, head writing, make-up, and editorial functions and qualifications. Lectures, class practice, and assignments. 3. Feature writing with a study of types and styles of feature stories. Practical application with a view to correlating the journalistic course with other university courses. Lectures, class practice, and assignments.

For Undergraduates and Graduates

ENG. 130-133. *Anglo-Saxon and Middle English*—Three credit hours each term. Students must enter at the beginning of the year, and should plan to continue during the full three terms.

1. Study of Anglo-Saxon (Old English) grammar and literature. Lectures on the principles of comparative philology and phonetics.
2. Beowulf through 2,000 lines.
3. The language and authorship of the Middle English period, ending with Chaucer. (House).

For Graduate Students

ENG. 201-203. *Seminar*—Original research and the preparation of dissertations looking toward advanced degrees. Credit proportioned to the amount of work and ends accomplished. (House.)

ENG. 204-206. *Elizabethan Literature*. Three credit hours each term. Three terms.

1. Shakespeare: Study of all of Shakespeare's plays.
2. Chief Elizabethan Dramatists (omitting Shakespeare).
3. Milton. (Lemon.)

ENG. 207-209. *Romantic Poets*—Three credit hours each term. Three terms.

1. Wordsworth and Coleridge.
2. Byron and Keats.
3. Shelley and Southey.

Lectures. Reports on assigned topics. Themes. (Lemon.)

ENG. 210. *Browning's Dramas*—Three credit hours. First term.
Luria; Return of the Druses; Colombe's Birthday; Pippa Passes; A Blot in the 'Scutcheon. (House.)

ENG. 211. *Tennyson*—Three credit hours. Second term.

Lectures on the art of poetry, followed by a detailed reading of *The Princess*. Survey of other important poems of this author. (House.)

ENG. 212. *Ballad Literature*—Three credit hours. Third term.

Traditional English and Scottish ballads. Modern imitative ballads. American folk ballads. Popular song literature. (House.)

MODERN LANGUAGE AND LITERATURE

FRENCH

For Undergraduates

FREN. 1-3. *Elementary French*—Three credit hours each term. Three terms.

Drill upon pronunciation, elements of grammar, composition, conversation, easy translation. For beginners.

This course must be followed by Fren. 101-103.

FREN. 101-103. *Second-Year French*—Three credit hours each term. Three terms. Prerequisite Fren. 1-3 or the equivalent.

Grammar continued, composition, conversation, translation, and reproductions. Texts selected from modern prose and poetry.

This course must be taken by those who offer two units in French for entrance

FREN. 104-106. *Scientific French*—Three credit hours each term. Three terms. Prerequisite Fren. 101-103.

Reading and translation of scientific texts and journals. Prose composition based upon texts read.

FREN. 107-109. *Development of the French Novel*—Three credit hours each term. Three terms. Prerequisite Fren. 101-103.

Detailed study of the history and the development of the novel in French literature. Study of the lives, works, and influence of various novelists.

This course alternates with Fren. 110-112. Given in 1921-22.

FREN. 110-112. *Development of the French Drama*—Three credit hours each term. Three terms. Prerequisite Fren. 101-103.

Analysis and study of the French drama of the seventeenth, eighteenth, and nineteenth centuries. Lectures, translation, collateral reading, and reports.

This course alternates with Fren. 107-109. Not given in 1921-22.

For Advanced Undergraduates

FREN. 113-115. *History of French Literature*—Three terms. Prerequisite Fren. 107-109 or 110-112.

Study of French literature from the earliest times to the present. Reading and translation of representative works; texts and lectures. (Kramer.)

GERMAN

For Undergraduates

GERM. 1-3. *Beginning German*—Three credit hours each term. Three terms.

Drill in pronunciation, elements of grammar, composition, conversation, dictation, and translation. For beginners.

This course must be followed by Germ. 101-103.

GERM. 101-103. *Second-Year German*—Three credit hours each term. Three terms. Prerequisite Germ. 1-3 or the equivalent.

Syntax, composition, conversation, translation, and reproductions. Selections from modern prose, poetry, and fiction.

This course is for those students who offer two units in German for entrance.

GERM. 104-106. *Scientific German*—Three credit hours each term. Three terms. Prerequisite Germ. 101-103.

Reading and translation of scientific texts and periodicals. Original reproductions of texts read. Lectures and practice upon scientific word structure and nomenclature.

GERM. 107. *Goethe and the Novel*—Three credit hours for the first half year. Prerequisite Germ. 101-103. This course is to be followed by Germ. 108 Given in 1921-1922 and alternate years.

Critical study of the life and works of Goethe together with the principles and development of the modern German novel.

GERM. 108. *Schiller and the Drama*—Three credit hours for the second half year. Prerequisites Germ. 107.

Detailed study of the life and works of Schiller and his relation to the development of the German drama.

GERM. 109. *Lessing and German Prose*—Three credit hours for the first half year. Prerequisite Germ. 101-103. This course is to be followed by Germ. 110. Alternates with Germ. 107. Not given in 1921-1922.

A study of the life and works of Lessing and his relation to the history of German prose.

GERM. 110. *Hiene and German Poetry*—Three credit hours for the second half year. Prerequisite Germ. 109.

Extensive study of Hiene and German poetry. Collateral reading. Lectures on the history of German poetry. Reports.

For Advanced Undergraduates

GERM. 111-113. *History of German Literature*—Three credit hours each term. Three terms. Prerequisite Germ. 107-108 or Germ. 109-110.

Study of German literature from the earliest times to the present. Reading and translation of representative works. Lectures, collateral reading and reports. (Kramer.)

SPANISH

For Undergraduates

SPAN. 1-3. *Beginners' Spanish*—Three credit hours each term. Three terms. To be followed by Span. 101-103.

A study of the elements of grammar with emphasis laid on verb, composition, and conversation.

SPAN. 101-103. *Elementary Spanish*—Three credit hours each term. Three terms. To be followed by Span. 104-106. Prerequisite Span. 1-3 or the equivalent.

The advanced study of grammar is commenced. Composition and reading of texts relating to the habits, customs, etc., of Spanish countries. Instruction is given in Spanish as far as possible.

SPAN. 104-105. *Intermediate Spanish*—Three credit hours each term. Two terms. To be followed by Span. 106. Prerequisite Span. 101-103 or the equivalent.

The study of grammar continued. Drill in idioms. Lectures and assigned work given in the history and development of Spain and South America.

SPAN. 106. *Commercial Forms*—Three credit hours. One term. Prerequisite Span. 104-105.

The writing and discussion of business forms and etiquette. A review of the field of commerce in South America.

For Advanced Undergraduates

SPAN. 107-109. *Modern Spanish Literature*—Three credit hours each term. Three terms. Prerequisite Span. 104-106.

Study of modern writers of Spain and South America. Lectures, collateral reading and reports. (Stinson.)

SPAN. 110-112. *Spanish Literature in the Golden Age*—Three credit hours each term. Three terms. Prerequisite Span. 107-109.

Lectures, a limited amount of class room work, and collateral reading of the development of thought during this period. (Stinson.)

Additional courses in Spanish may be arranged with the consent of the instructor.

ZOOLOGY AND AQUICULTURE

For Undergraduates

The courses offered by this department cover the biological requirements for entrance to the Medical School and furnish the basis for specialization in Aquiculture and other branches of Zoology.

ZOOL. 101-102. *General Zoology*—Two credit hours. Two lecture periods. First and second terms. Repeated second and third terms. Must be taken concurrently with Zool. 101a-102b.

The fundamental concepts of animal biology are stressed rather than the morphology of types. Thus the course is made broad enough to serve as a foundation to further study in any branch of the subject. Required by the Colleges of Arts and Sciences, Agriculture, and Home Economics.

ZOOL. 103. *A continuation of Zool. 101-102*—Two credit hours. Two lectures. Third term. Prerequisite, 101-102. Required of pre-medical students. Must be taken concurrently with Zool. 103c.

ZOOL. 101a-102b. *General Zoology*—Two credit hours. Two laboratory periods of three hours each. First and second terms. Repeated second and third terms. Must be taken concurrently with Zool. 101-102.

ZOOL. 103c. *A continuation of Zool. 101a-102b*—Two credit hours. Two laboratory periods of three hours each. Third term. Prerequisite, Zool. 101a-102b.

Required of pre-medical students. To be taken concurrently with Zool. 103.

ZOOL. 104-105. *Embryology*—Four credit hours. Two lectures and two laboratory periods of three hours each. First and second terms. Prerequisites, Zool. 101-101a, 102-102b.

The early stages of the frog and the development of the chick to the end of the fourth day indicates the scope of the course.

ZOOL. 106. *Comparative Morphology of Vertebrates*—Four credit hours. Two lectures and two laboratory periods of three hours each. Third term. Prerequisite, Zool. 104-105.

For Graduates and Advanced Undergraduates

ZOOL. 107. *Aquiculture*—Four credit hours. Three lectures and one laboratory period of three hours. First term. Prerequisites, Zool. 101-106 and Bot. 101. (Open to graduates and undergraduates.) Morphology and ecology of representative industrial and game fishes in Maryland, the Chesapeake Blue Crab and the Oyster.

This course is an introduction of the Curriculum of Fisheries to be inaugurated 1921-1922. (Truitt.)

For Short-Course Students

ZOOL. 1. *Animal Pests*—Three lectures. Second term.

A study of the wild animals of the farm with practice in identification; designed to enable farmers to recognize the beneficial and noxious animals on Maryland farms.

MUSIC

VOICE

Courses in Voice Culture are offered, covering a thorough and comprehensive study of tone production, based on the Italian method of singing.

The work required to develop a singer is begun with the most fundamental principles of correct breathing. Scale and arpeggio exercises, and all intervals, the portamento, legato, and staccato, and trill, and other embellishments to develop the technique of singing are studied through the medium of vocal exercises arranged by the greatest authorities on the voice, under the careful supervision of the instructor.

The study of songs and ballads is adapted to the ability and requirements of each singer, a thorough training being given in diction and phrasing, through the medium of sacred and secular ballads, leading to the Oratorio and Opera.

Opportunities are offered all voice pupils who are capable, to make public appearances in the regular pupils' recitals, as well as in the churches of the community.

Tuition

One lesson per week, term of twelve weeks	\$30
Two lessons per week, term of twelve weeks	\$50

Chorus

Membership in the Chorus is free to all students, and to persons residing in the community. One trimester credit for the year is awarded to students for faithful attendance at weekly rehearsals and participation in public concerts. Standard part-songs and oratorios are studied. One rehearsal each week.

Glee Clubs

A Men's Glee Club and a Women's Glee Club, both of limited membership, are recruited from the best vocal talent in the University. Admission is gained through tests, or "try-outs," conducted at the beginning of the school year. Public concerts are given by both organizations. Each club holds two rehearsals each week.

Military Band

This organization, of limited membership, is a part of the Military organization of the University, and is subject to the restrictions and discipline of the Department of Military Science and Tactics, but the direction of its work is under the Department of Musicians.

PIANO

Elementary Piano Courses. Work for beginners, based on the Leschetizky method.

Advanced Piano Courses. The college work in Piano presupposes three years of preparatory study of the piano, part or all of which may be taken at the University.

Lessons are taken twice a week. A four-year college course as follows:

First Year—Leschetizky technic, Bach Two-part Invention; Heller Etudes, Sonatas of Haydn, Mozart, and Beethoven; selections from classic and modern composers.

Second Year—Bach Three-part Inventions; concertos by classic masters; Jensen Etudes; selections from classic, romantic and modern composers.

Third Year—Leschetizky technic; Moscheles Etudes; Chopin Preludes and Waltzes; Bach Well-Tempered Clavichord; Mendelssohn concertos; Beethoven sonatas; selections from romantic and modern composers.

Fourth Year—Leschetizky technic; Chopin Etudes; Bach Well-Tempered Clavichord; sonatas and concertos by Grieg, McDowell, Schutt, Beethoven, etc.; concert pieces by modern and romantic composers.

Tuition (for Elementary Piano Courses)

One lesson per week, term of twelve weeks	\$12
Two lessons per week, term of twelve weeks	\$24

Note.—Music tuitions are due in advance. 10% is added to all tuitions not paid in advance.

PHYSICS

PHYSICS 101-103. Five credit hours each term. Four recitations. One laboratory period. Three terms. Prerequisite, Math. 101.

Laws and theories pertaining to Mechanics, Heat, Magnetism, Electricity, Light, and Sound, with special reference to the problems which concern engineers and industrial chemists are discussed in the lecture room and applied in the laboratory. Required of all students in Engineering and Industrial Chemistry. Elective for other students.

PHYSICS 104-106—Four credit hours each term. Three recitations. One laboratory period. Three terms.

A discussion in the classroom and application in the laboratory of the laws of physical phenomena in Mechanics, Heat, Magnetism, Electricity, Light, and Sound. Required of students in General and Agricultural Chemistry and Medicine. Elective for other students.

PHYSICS 107-108. *Agricultural Physics*—Three credit hours. Three lectures. First and second terms.

Mechanics and Heat—A discussion of the laws and theories of the mechanics of solids and fluids and of heat, as applicable to the problems of the students in Agriculture.

Electricity—A practical course in Electricity and its applications to the needs of the agriculturists.

Required of Sophomores in Agriculture.

PUBLIC SPEAKING

P. S. 101-103. *Reading and Speaking*—One credit hour each term. Three terms. Freshman year.

A practical course in delivery. The principles and technique of vocal expression; enunciation, emphasis, inflection, force, gesture, and general delivery. Delivery of oratorical selections by students before the class, with criticism and suggestions by instructor. Delivery of original speeches. Individual drill by appointment with instructor.

P. S. 104-106. *Oratory*—One credit hour for each term. Three terms. Open to students who have credit for P. S. 101-103.

The rhetoric of oral discourse. The speech for the occasion. Study of oratorical masterpieces. Practice in the writing and delivery of orations and general speeches and addresses.

P. S. 107-109. *Extempore Speaking*—One credit hour each term. Three terms. Open to all students.

Theory and methods. The psychology of public speaking. Class exercises in speaking extemporaneously on assigned topics.

P. S. 110-112. *Debate*—One credit hour each term. Three terms. Open to students who have credit for P. S. 101-103.

A study of the principles of argumentation. Study of masterpieces in argumentative oratory. Class exercises in debating.

P. S. 113-115. *Oral Reading*—Two credit hours each term. Three terms. Open to all students.

Primarily for students intending to be teachers. Study of the technique of vocal expression. The oral interpretation of literary masterpieces. Study of methods of teaching oral reading in the schools.

P. S. 116-118. *Oral Technical English*—Three credit hours each term. Three terms.

The preparation and delivery of lectures, speeches, reports, etc., on technical subjects. All composition required in the preparation of much of the above technical matter is criticized and corrected before the oral delivery. For Engineering students only.

P. S. 119-121. *Advanced Oral Technical English*—Three credit hours each term. Three terms.

A continuation of P. S. 116-118. For Engineering students only.

MATHEMATICS

MATH. 101. *Trigonometry*—Five credit hours. Five lectures. First term.

Plane and Spherical Trigonometry. Deduction of formulas and their application to the solution of triangles, trigonometric equations, etc. Required of students in Engineering who have offered Solid Geometry for entrance.

MATH. 102. *Solid Geometry and Spherical Trigonometry*—Five credit hours. Five lectures. First term.

In this course emphasis is placed on the relation of the subject to descriptive geometry and on areas and volumes of solids. The latter portion of the time

is devoted to spherical trigonometry. Required of Engineering students who have offered Plane Trigonometry for entrance. Elective for other students.

MATH. 103. *Analytic Geometry*—Five credit hours each term. Five lectures. Second and third terms. Prerequisites, Math. 101 and 102.

Geometry of two and three dimensions, loci of equations of second degree, higher plane curves, etc. Required of students in Engineering.

MATH. 104. *Advanced Algebra*—Three credit hours. Three lectures. First term.

Algebra beyond that required for admission. Elementary theory of equations, partial fractions, permutations, etc. Required of Engineering students.

MATH. 105. *Calculus*—Two credit hours. Two lectures. First term. Five credit hours each term. Five lectures. Second and third terms. Prerequisite, Math. 103.

A discussion of the methods used in differentiation and integration and the application of these methods in determining maxima and minima, areas, volumes, moments of inertia, etc. Required of Engineering students.

MATH. 106. *Algebra*—Three credit hours. Three lectures. First term.

Quadratic Equations, simultaneous quadratic equations, progressions, graphs, logarithms, etc. Required of students in the Chemical, Liberal Arts, and premedical courses.

MATH. 107. *Plane Trigonometry*—Three credit hours. Three lectures. Second term.

Trigonometric functions. Development of formulas and their application to the solution of trigonometric equations and oblique triangles. Required of students in the Chemical, Liberal Arts, and Pre-medical courses.

MATH. 108. *Plane Analytic Geometry*—Three credit hours. Three lectures. Third term. Prerequisites, Math. 106 and 107.

A discussion of the straight line, conic sections and higher plane curves. Required of students in the Chemical, Liberal Arts, and Pre-medical courses.

MATH. 109. *Plane Analytic Geometry*—Three credit hours. Three lectures. First term.

A continuation of Math. 108. Required of students in Chemistry.

MATH. 110. *Calculus*—Three credit hours each term. Three lectures. Second and third term. Prerequisite, Math. 109.

A general course in differential and integral Calculus particularly adapted to the needs of students in Chemistry.

MATH. 111. *Solid Geometry*—Three credit hours. Three lectures. Third term. A course in Geometry similar to Math. 102. Elective.

MATH. 112. *Differential Equations*—Three credit hours. Three lectures. Second term. Prerequisite, Math. 105.

The solution of the simpler differential equations is discussed. Elective.

MATH. 113. *Least Squares*—Two credit hours. Two lectures. Third term.

A short course in which stress is laid on the application to geodesy. Elective.

MATH. 4. *Astronomy*—Three credit hours. Three lectures. Second term. Prerequisite, Math. 107.

A course in descriptive astronomy. Elective.

LIBRARY SCIENCE

L. S. 101. *Library Methods*—One credit hour. First term. Freshman year. Required of all students registered in the College of Arts and Sciences. Elective for others.

This course is intended to help students use the library with greater facility. Instruction will be given by lectures and by practical work with the various catalogs, indexes, and reference books. This course considers the general classification of the library according to the Dewey System. Representative works of each division are studied in combination with the use of the library catalog. Attention is given to periodical literature, particularly that indexed in the Reader's Guide and in the Agricultural Index. Book selection and a short bibliography on an assigned subject complete this course.

HISTORY AND POLITICAL SCIENCE

HISTORY

H. 101-103. *Current History*—One credit hour each term.

A study of the political, social, and economic problems of the day. Lectures and assignments.

H. 104. *American Colonial History*—Two credit hours. First term. Lectures. Term reports.

H. 105. *American Civil War and Reconstruction*—Two credit hours. Second term.

Lectures. Term reports.

H. 106. *Development of American Nationality*—Two credit hours. Third term.

Lectures. Term reports.

H. 107. *Latin American Republics*—Two credit hours. Third term. Senior year. Not given in 1921-22.

Influence of United States in Central and South America; Monroe Doctrine; Pan Americanism.

H. 109-111. *Modern and Contemporary History*. Three credit hours each term. For Freshmen.

A study of the main events in Europe and American history since 1815.

H. 112. *Imperialism and World Politics*—Two credit hours. Second term. For Juniors majoring in Political Science.

A study of the political development of Europe, Canada, United States, and South America. Colonial expansion, League of Nations. Lectures and assigned readings.

H. 113. *Origins and Issues of the World War*—Two credit hours. Third term. Not given in 1921-22.

H. 114-115. *The Far East*—Two credit hours each term. Second and third terms. Senior year. 1922-23.

A study of the principal events—political, social, and economic—in the development of the nations of the Far East. Special emphasis will be given to the relations between the nations of the Far East and United States.

H. 116-118. *Epochs in European History*—Two credit hours each term. For Seniors majoring in History.

H. 119-121. *Historiography*—Two credit hours each term. For Seniors majoring in History.

A study of the method of writing history. Examination of the methods of prominent historians, and the development of assigned topics in technical form. Extensive use will be made of the material in the Library of Congress.

POLITICAL SCIENCE

POL. SC. 101-103. *Government of the United States*—Three credit hours each term. Sophomore year.

A study of the governmental system of the United States. Evolution of the Federal Constitution; functions of the Federal Government; the executive, legislative, and judiciary departments. Lectures and assigned cases and readings.

POL. SC. 104-105. *American State Government*—Two credit hours each term. Junior year.

The development of American state constitutions. The structure and workings of state governments. Lectures and assigned readings.

POL. SC. 106-108. *Constitutional Law of United States*—Two credit hours each term. Prerequisites, Pol. Sc. 101-103 and 104-105.

A study of the American constitution and its interpretation as based on the decisions of the Federal Courts and the Supreme Court of the United States. Lectures and assigned cases.

POL. SC. 109-110. *Governments of Europe*—Two credit hours each term. First and second terms. Prerequisites, Pol. Sc. 101-103 and 104-105.

A comparative study of the political organization of the principal states of Europe. Classification of forms; separation of powers; source of power. Lectures and assigned readings.

POL. SC. 111-112. *Municipal Government*—Two credit hours each term. Second and third terms. Second term: Government of American Cities. Third term: Government of European Cities. Prerequisites, Pol. Sc. 101-103 and 104-105.

A study of city government. Source of power; organization and administration. City manager and commission forms of government. Lectures and assigned readings.

POL. SC. 113-115. *American Diplomacy*—Two credit hours each term. Senior year. Not given in 1920-21. Alternates with International Law.

A survey of the beginnings of American diplomacy. Important foreign relations. Treaties and treaty making. Lectures and assigned readings.

POL. SC. 116-118. *International Law*—Three credit hours each term. Senior year. Alternates with American Diplomacy. Given in 1922-23.

A study of the nature and source of international law. Rights and duties of states. Freedom of the seas. Lectures and assigned cases.

POL. SC. 119-120. *Political Parties and Practical Politics*—Two credit hours each term. First and second terms. For Seniors and Juniors majoring in Political Science.

National and international problems of current interest. Foreign relations. Suffrage. Labor problems. Lectures and assigned readings.

POL. SC. 124-126. *Research in Political Science*—Two credit hours each term. Given in 1921-22. For senior in Political Science only.

Practical work in the development of assigned problems in the Library of Congress and the departments of Federal Government.

GENERAL BOTANY

Description of Courses

GEN. BOT. 101-102. *General Botany*—Credit at the rate of four hours per term. (Six credit hours for half year's work.) Two lectures and two laboratory periods. Freshman year.

General introduction to botany, touching briefly on all phases of the subject and planned to give the fundamental prerequisites for study in the special departments.

GEN. BOT. 103. *Systematic Botany*—Three credit hours: one lecture and two laboratory periods. Third term. Prerequisite, General Botany 101-102.

A study of the local flora. A study is made of floral parts and the essential relations between the groups of flowering plants. Students become familiar with the systematic key used to identify plants.

GEN. BOT. 104. *Plant Anatomy*—Three credit hours: two lectures and one laboratory period. First term. Sophomore year. Prerequisite, General Botany 101-102.

An anatomical study of leaves, stems, roots, flowers, and fruits. Where possible, plants economically or otherwise of most interest are used as types for study.

GEN. BOT. 105-107. *Plant Morphology*—Four credit hours each term. Junior year. Prerequisite, General Bot. 101-102.

A course designed to give the student a comprehensive view of the plant kingdom. It treats of the general morphological evolutionary development and relationships of the various groups of plants based upon the examinations of selected types from each group.

GEN. BOT. 108. *Mycology*—Three credit hours: two lectures and one laboratory period. Third term. Junior year.

Introductory comparative study of the morphology, life history, and classification of economic fungi.

For Advanced Undergraduates and Graduates

GEN. BOT. 109. *Methods in Plant Histology*—Three credit hours: one lecture and two laboratory periods. Second term. Prerequisite, Gen. Bot. 104.

Primarily a study in technique. It includes methods of killing, fixing, imbedding, sectioning, straining, and mounting on slides of plant materials.

GEN. BOT. 110. *Cytology*—Three credit hours: one lecture and two laboratory periods. Second term. Prerequisite, Gen. Bot. 109.

The structure and life history of the plant cell.

GEN. BOT. 111. *Advanced Taxonomy*—Three credit hours: one lecture and two laboratory periods. First term.

The course is offered for students who want more proficiency in systematic botany than the elementary course affords. A student who completes the course should be able to classify the grasses and other common plants of the state.

For Graduate Students

GEN. BOT. 201. *Advanced Mycology*—Two credit hours each term. One lecture and one laboratory period.

A detailed treatment of the classification, morphology and economics of the fungi, with studies of life histories in culture and identification of field material.

GEN. BOT. 202. *Special Studies of Fungi*—Credit hours according to work done.

Special problems in the structure or life history of fungi or the monographic study of some group of fungi.

ECONOMICS AND SOCIOLOGY

This department aims to provide training for public service, social service, and business pursuits, and in a general way aims to train men and women for more intelligent discharge of their duties as American citizens inasmuch as problems in economics and sociology form the subject matter of most legislation. For technical students certain required and elective courses have been worked out in consultation with the Deans, supplementary to the work of the different schools. Furthermore the department aims to encourage the development of economic and sociological research studies.

ECONOMICS

ECON. 101-102. *Elements of Economics*—Three credit hours each term. First and second terms. Not open to freshmen, but required of students who elect to major in this department.

Elementary phases of the present system; production, exchange, distribution and consumption of wealth; the monetary system; public finance; land and labor problems; monopolies, taxation and other similar topics.

ECON. 103. *Corporation Finance*—Two credit hours. First term. Prerequisite, Econ. 101.

Methods employed in the promotion, capitalization, financial management, consolidation and reorganization of business corporations.

ECON. 104. *Money and Banking*—Two credit hours. Second term. Prerequisite, Econ. 101.

A study of the nature and functions of money; standards of value and prices; credit; bank clearings and exchanges; history of American and foreign banking; the stock exchange and the money market.

ECON. 105. *Public Finance and Taxation*—Two credit hours. Third term. Prerequisite, Econ. 101.*

A study of public expenditures, receipts, indebtedness and financial administration; theories on public expenditures; theories of taxation; the growth and

*May not be offered in 1921-22.

nature of public credit; the forms of public debts; federal, state, and municipal budgets.

ECON. 106. *Economic History of the United States*—Three credit hours. First term.

A study of the growth of industry, agriculture, commerce; transportation from the simple isolated communities of the early colonies to the complex industrial and commercial society of today; its effect on the population in terms of successive new adaptations.

ECON. 107. *Markets and Marketing*—Three credit hours. Third term.

An effort to understand the precise ways in which existing systems of marketing operate and their historical development; evidence that certain old systems fail to meet the present needs fully, and that new conditions require new adjustments. Study of the methods of auction, direct selling, co-operative buying and selling, and the direct and indirect service of governmental agency.

SOCIOLOGY

Soc. 101-102. *Elements of Sociology*—Three credit hours each term. First and second terms.

The life of society as affected by rural conditions, cities, wealth, poverty, heredity, immigration, etc.; the nature of social organization; different phases of social evolution; problems and principles of social control.

Soc. 104. *Social Psychology*—Three credit hours. First term.

This course deals with such psychological matters as underlie the work in the field of sociology and other social sciences. The fundamental instincts as dynamic forces in the individual and in society, their development, organization and control. Analysis of the value problem.

Soc. 105. *Social Psychology*—A continuation course of Soc. 104. Three credit hours. Second term.*

A psychological analysis of some main features of an organized modern state. Analysis of economic value and other social values continued.

Soc. 106. *Logical Aspects of Sociology*—Three credit hours. Third term.

This course seeks to apply the principles of logic to social phenomena. Nature of casual proof, grounds for universal judgments, statistical arguments, circumstantial evidence, analogical inference, experimental investigation, and nature and function of reasonable doubt in inductive inferences will be studied in their basic relation to actual sociological conditions. Practical problems of everyday life in their relation to the social order as discussed in the current literature and the press will furnish material for the student to test.

Soc. 107. *Philosophical Aspects of Sociology*—Three credit hours. First term.*

A rapid survey of the leading systems of thought respecting social phenomena. The aim will be to show the genetic development of present day theory and its bearing on actual life conditions within various social groups.

Soc. 109. *Ethical Aspects of Sociology*—Three credit hours. Third term.*

*May not be offered in 1921-22.

The application of moral principles of social phenomena. Nature of moral judgments and underlying ethical concepts as illustrations in current social problems.

Soc. 103. (R. O. 104.) *Principles of Rural Organization*—Three credit hours. Third term.

A study of the historical and comparative development of farmers' co-operative organizations, stressing particularly present tendencies.

Problems of rural life in the light of modern social science; federal and state organizations intended to promote rural welfare; purpose and achievements of such voluntary organizations as the Grange, the Farmers' Union, village improvement associations, boys' and girls' clubs, co-operative societies, etc.

BUSINESS

COM. 101-103. *Elements of Accounting*—Three credit hours each term.

A thorough but rapid study of the general principles of bookkeeping. Modern accounting as practiced in leading establishments. Labor-saving devices; special columns and controlling accounts; preparation and interpretation of financial statements.

COM. 104-106. *Advanced Accounting*—Three credit hours each term.

A continuation of Com. 103. Depreciation, reserves, and investment accounting; bank and corporation accounting; cost accounting and distribution of overhead; advanced forms of financial statements. C. P. A. problems.

COM. 107-109. *Commercial Mathematics*—Three credit hours each term.*

Counting-house mathematics. Use of logarithms, slide rule, comptometer, and other standard calculating devices; problems relating to sinking funds, depreciation, and annuities; elements of statistical methods.

COM. 110-112. *Business Law*—Three credit hours each term.

The aim of this course is to train students for practical business affairs by giving the legal information necessary to prevent common business errors. The following are some of the phases of the work: Requisites and forms of contracts and remedies for their breach; sales, passage of title, warranties; negotiable instruments, assignment, and liability of signers; agency, title, abstracts, mortgages, leases, etc.

COM. 113. *Business Organization*—Three credit hours. First term.

Evolution and forms of business units; structure and life history of typical corporations; the trust problem; public utility corporations; reorganization and receivership.

COM. 114. *Business Management*—Three credit hours. Second term.

Internal organization of a business for securing efficiency; departmental organization and coordination; various systems of scientific management studied and compared.

COM. 115. *Purchasing and Selling*—Three credit hours. Third term.

Principles of purchasing; the purchasing organization; the function of agents, brokers, jobbers, and wholesalers; qualifications of a salesman; business ethics; specialty selling; the sale of service; prices and profits.

*May not be offered in 1921-22.

CHEMISTRY

INORGANIC CHEMISTRY

INORG. CHEM. A. 101-103. *General Chemistry and Qualitative Analysis*—Four credit hours each term: two lectures and two laboratory periods. The year.

A study of the non-metals and metals, the latter being studied from a qualitative standpoint. One of the main purposes of the course is to develop original work, clear thinking, and keen observation. This is accomplished by the project-method of teaching.

Course A is intended for students who have never studied chemistry, or have passed their high school chemistry with a grade of less than A.

INORG. CHEM. B. 101-103. *General Chemistry and Qualitative Analysis*—Four credit hours each term: two lectures and two laboratory periods. The year.

This course covers much the same ground as Inorg. Chem. A. 101-103 except the subject matter is taken up in more detail with emphasis on Chemical theory and important generalization. The first term of laboratory deals with fundamental principles, the second term takes up the preparation and purification of compounds and the third term deals with a systematic qualitative analysis of the more common bases and acids.

Course B is intended for students who have passed an approved high school chemistry course with a grade of not less than A.

INORG. CHEM. C. 101-102. *General Chemistry*—Four credit hours. The year. A study of the non-metals and metals and their application to Pharmacy. The laboratory work accompanying this course is chiefly of a pharmaceutical nature.

ORGANIC CHEMISTRY

ORG. CHEM. 101-102. Four credit hours each term: two lectures and two laboratory periods. The first and second term. Prerequisites, Inorganic Chemistry A or B 101-103.

A study of the aliphatic and aromatic compounds. The course is designed primarily for premedical students.

ORG. CHEM. 103-104. Three credit hours each term: two lectures and one laboratory period. The first and second terms. Prerequisites, Inorg. Chem. A or B 101-103.

This course is designed primarily for agricultural students.

For Graduates and Advanced Undergraduates

ORG. CHEM. 105-107. *Advanced Organic Chemistry*—Four credit hours each term: two lectures and two laboratory periods. The year. Prerequisites, Inorg. Chem. A or B 101-103.

This course is particularly designed for advanced students and offers a detailed study of the typical organic compounds. (Broughton.)

PHYSICAL CHEMISTRY

PHYS. CHEM. 101-102. *Elements of Physical Chemistry*—Four credit hours each term: three lectures and one laboratory period. The first and second

terms. Prerequisites, Inorg. Chem. A or B 101-103, Analytical Chem. 101-103, Math. 110, Physics 101-103.

The course will present the portions of Physical Chemistry which are necessary to every chemist, student of medicine, bacteriologist, or teacher of chemistry, with laboratory practice in thermometry and temperature regulation; physical constants; molecular weight determinations; velocity of reactions; chemical equilibrium and law of mass action; measurements of conductivity; migration of ions; hydrogen ion concentration, etc.

For Graduates and Advanced Undergraduates

PHYS. CHEM. 103. *Colloidal Chemistry*—Four credit hours: three lectures and one laboratory period. The third term. Prerequisites, Inorg. Chem. A or B 101-102, Physical Chem. 101-102, Physics 101-103.

The following topics will be discussed: The general constitution of colloid systems; Relations between the physical state and the general properties of colloid systems; General energetics of the dispersoids; Distribution of the colloid state and the concept of colloid chemistry; Mechanical properties of colloid systems. (Gordon.)

PHYS. CHEM. 104. *Electrochemistry*—Four credit hours: three lectures and one laboratory period. The third term. Prerequisites, Inorg. Chem. A or B 101-103, Phys. Chem. 101-102.

Various factors which govern the action of electrolytes when subject to the action of the electric current and the factors which determined electromotive force are taken up. (Gordon.)

For Graduates

PHYS. CHEM. 201. *Special Colloidal Chemistry*—Two credit hours: two lectures. Prerequisites, Phys. Chem. 102.

Special topics will be taken up with emphasis on the most recent theories and research going on in colloid chemistry at the present time. (Gordon.)

PHYS. CHEM. 202. *Physical Chemistry*—Three credit hours each term: two lectures and one laboratory period. The first and second terms. Prerequisites, Phys. Chem. 101-102. (Gordon.)

A study of the more advanced theories of physical chemistry with laboratory practice in the more technical physico-chemical measurements.

PHYS. CHEM. 203. *Thermodynamics*—Two credit hours each term: two lectures. Prerequisites, Phys. Chem. 101-102.

Designed for graduate students who wish an advanced mathematical treatment of chemical phenomena. Mellor's chemical statics and dynamics will be applied to Lewis' system of Physical Chemistry. (Gordon.)

PHYS. CHEM. 204. *Research in Physical Chemistry*. Physical chemistry problems for investigation will be assigned to graduate students who wish to gain an advanced degree in chemistry. (Gordon.)

ANALYTICAL CHEMISTRY

ANALYTICAL CHEM. 101. *Advanced Qualitative Analysis*—Four credit hours: one lecture and three laboratory periods. The first term. Prerequisites, Inorg. Chem. A or B 101-103.

An advanced course of Qualitative Analysis for chemical students.

ANALYTICAL CHEM. 102-103. *Quantitative Analysis*—Four credit hours each term: one lecture and three laboratory periods. Second and third terms. Prerequisites, Inorg. Chem. 101-103, Analytical Chem. 101.

The principal operations of gravimetric Analysis. Standardization of chemical balance. Standardization of weights and apparatus used in chemical analysis.

ANALYTICAL CHEM. 104-105. *Quantitative Analysis*—Three credit hours each term: one lecture and two laboratory periods. First and second terms. Prerequisites, Analytical Chem. 102-103.

Principal operations of volumetric analysis. Standardization of chemical glassware. Study of indicators, typical volumetric and colorimetric methods.

ANALYTICAL CHEM. 106. *Chemical Calculations*—One credit hour each term: the year. Prerequisites, Inorg. Chem. 101-103.

Chemical problems relating to Analytical Chemistry.

ANALYTICAL CHEM. 107. *Quantitative Analysis*—Four credit hours: one lecture and three laboratory periods. The third term. Prerequisites, Inorg. Chem. 101-103.

Quantitative Analysis for premedical students with special reference to volumetric methods. (Broughton.)

For Graduates and Advanced Undergraduates

ANALYTICAL CHEM. 108-109-110. *Advanced Quantitative Analysis*—Four credit hours each term: two lectures and two laboratory periods. Prerequisites, Inorg. Chem. 101-103, Analytical Chem. 101-106.

A continuation of courses 102-3, 104-105.

INDUSTRIAL CHEMISTRY

IND. CHEM. 101. *Agricultural Chemistry*—Four credit hours: three lectures and one laboratory period. Third term. Prerequisites, Inorg. Chem. 101-103.

Lectures, recitations and laboratory in the chemistry of air, soils, feeds, fertilizers, plants and animals.

IND. CHEM. 102-103. *Agricultural Analysis*—Three credit hours each term: one lecture and two laboratory periods. Second and third terms. Prerequisites, Inorg. Chem. 101-103.

Quantitative Analysis and its application to agricultural products including gravimetric and volumetric methods.

For Graduates and Advanced Undergraduates

IND. CHEM. 104-105-106. *Advanced Agricultural Chemistry*—Four credit hours each term: two lectures and two laboratory periods. The year. Prerequisites, Inorg. Chem. A or B 101-103, Analytical Chem. 102-103-104-105. Agricultural Chemistry and its application to the soil, the plant, and the animal.

IND. CHEM. 107-108-109. *Agricultural Chemical Analysis*—Three credit hours each term. The year. Prerequisites, Inorg. Chem. 101-103, Analytical Chem. 102-103-104-105. (Broughton.)

Analysis of soils, plants and animal products.

IND. CHEM. 110. *Engineering Chemistry*—One credit hour each term: the year. Prerequisites, Inorg. Chem. A or B 101-103.

A lecture course dealing with the value of fuels, coal, oils and gases, from their chemical analysis. The significance of flue gas analysis. Comparison of specifications, particularly chemical requirements of various states, manufacturers and large corporations for fuels, lubricating oils and paints. This course is given primarily for students in engineering. (McDonnell.)

IND. CHEM. 111. *Determinative Mineralogy and Assaying*—Three credit hours: one lecture and two laboratory periods. Third term. Prerequisites, Inorg. Chem. 101-103.

The more important minerals are identified by their characteristic physical and chemical properties. Assays of gold, silver, copper and lead, etc., are made. (Broughton.)

IND. CHEM. 112. *Metallurgical Calculations*—One credit hour each term: the year. Prerequisites, Inorg. Chem. 101-103, Analytical Chem. 102-103, 104-105.

Problems embodying the use of physical, chemical and mechanical principles utilized in practical metallurgy. (Broughton.)

IND. CHEM. 113-114. *Metallurgical Analysis*—Three credit hours each term. First and second term. Prerequisites, Inorg. Chem. 101-103, Analytical Chem. 101-105.

Analysis of industrial ores and alloys. (Broughton.)

IND. CHEM. 115-116-117. *Industrial Chemistry*—Two credit hours each term: the year. Prerequisites, Inorg. Chem. 101-103.

A thorough course of the practical methods employed in the various Inorganic and Organic chemical indicators. (McDonnell.)

For Short-Course Students

IND. CHEM. 1. *Agricultural Chemistry*—Two lectures and one laboratory period. First and second terms.

This course consists of an elementary study of general chemistry with special reference to the chemistry of plants, animals, soils, fertilizers, etc.

FERTILIZER AND FOOD CHEMISTRY

Dr. H. B. McDonnell has charge of the State's inspection work including sampling, analysis, and the publication of results on fertilizers, stock food, and agricultural lime.

SEMINAR

One credit hour. The year. During these periods there is a discussion of the latest bulletins and scientific papers on all phases of Chemistry, by the graduate students and chemistry staff.

ANCIENT LANGUAGES AND PHILOSOPHY

GREEK

Gk. 1-3. *Beginners' Greek*—Three credit hours each term. Three terms.

Drill and practice upon the fundamentals of Greek grammar and the acquisition of a vocabulary. To be followed by Gk. 101-103.

GK. 101-103. *Greek Grammar, Composition, and Translation of Selected Prose Works*—Three credit hours each term. Three terms. Second year course. Prerequisite, Gk. 1-3.

This course is for those who offer two units in Greek for entrance.

GK. 104-106. *Greek Literature and Composition*—Three credit hours each term. Three terms. Prerequisite, Gk. 101-103.

Study and translation of Greek prose and lyric poetry.

GK. 107-109. *Greek Drama*—Three credit hours each term. Three terms. Prerequisite, Gk. 104-106.

A study of the qualities of Greek dramatic poetry and comedy. Translation of representative selections.

LATIN

LAT. 101-103. *Translation, Prosody, Mythology*—Three credit hours each term. Three terms.

Study and translation of selections from Virgil, together with a study of his life and influence.

This course may be offered for entrance or may be taken as college work by those who offer only two units of Latin for entrance.

LAT. 104-106. *Latin Grammar, Composition, and Translation*—Three credit hours each term. Three terms.

Review of Latin Grammar. Much practice in prose composition. Translation of selections from Livy, Cicero, and Sallust.

This course is for those who offer four units in Latin at entrance.

LAT. 107-109. *Latin Drama*—Three credit hours each term. Three terms. Prerequisite, Lat. 104-106 or the equivalent.

Critical study of selected plays of Plautus and Terence.

LAT. 110-112. *History of Roman Literature*—Three credit hours each term. Three terms. Prerequisite, Lat. 107-109.

Lectures, translation of representative works, and collateral reading.

PHILOSOPHY

For Advanced Undergraduates

PHIL. 101. *Introduction to Philosophy*—Three credit hours. First term. Junior standing required.

A study of the meaning and scope of philosophy; its relations to the arts, sciences, and religion. To be followed by Phil. 102-103.

PHIL. 102-103. *Problems and Systems of Philosophy*—Three credit hours. Second and third terms. Prerequisite, Phil. 101.

Study of the problems and systems of philosophy together with tendencies of present-day thought. Lectures and reports on the reading of representative works.

PHIL. 104-106. *History of Philosophy*—Three credit hours. Three terms. Senior standing required.

A study of the development of philosophy from prehistoric times, through Greek philosophy, early Christian philosophy, mediæval philosophy to modern philosophical thought. Lectures and reports on outside reading.

The School of Dentistry

FACULTY

T. O. HEATWOLE, M. D., D.D. S., Dean

E. FRANK KELLY, Phar. D.

ELDRIDGE BASKIN, M. D., D.D. S.

ALEX H. PATERSON, D.D. S.

J. BEN ROBINSON, D.D. S.

B. MERRILL HOPKINSON, A. M., M. D., D.D. S.

ROBERT P. BAY, M. D.

ROBERT L. MITCHELL, Phar. G., M. D.

H. J. MALDEIS, M. D.

HORACE M. DAVIS, D.D. S.

The course of instruction in the School of Dentistry covers a period of four Sessions of 32 weeks each, exclusive of holidays, in separate years.

The thirty-eighth regular session will begin October 1, 1921, and continue until about May 25, 1921. Full attendance during this period is demanded in order to get advancement to higher classes. Class examinations for the session will be held in October, January and May.

This department of the University is a member, in good standing, of the National Association of Dental Faculties, and conforms to all the rules and regulations of that body.

Aside from and independent of the regular session, this School maintains a spring and summer session, which follows immediately the termination of each regular session and continues until October 1st. This is intended for practical work only; no credit for time thus put in is allowed toward graduation. The many advantages of the spring and summer session for actual practice cannot be overestimated, as the number of patients applying for dental services is always very large and the Infirmary is never closed except on Sundays and holidays.

Requirements for Matriculation

The requirements for matriculation in the School of Dentistry are those established by the Dental Educational Council of America, viz; graduation from an accredited high school having a four-year course, or its equivalent

Applicants for matriculation must submit their credentials for verification to the Registrar of the University.

Applicants lacking full credentials may earn same by taking a stated written examination on subjects in which they are deficient.

Attendance Requirements

In order to receive credit for a full session, each student must have entered and be in attendance not later than ten days after the beginning and remain until the close of the regular session.

In case of sickness, attested by a physician's certificate, students may enter twenty days after the opening of the regular session.

Graduates from reputable and accredited medical colleges are admitted to the Sophomore year and credits allowed on all subjects completed which are included in the Dental Course.

Students from other recognized dental colleges will be given credit for all work completed in the institution from which they come, except those entering for the Senior year only. These will be required to take the work of the full Senior courses of this School.

At the close of each session, each student must pass a satisfactory examination on the several subjects of that year before he can be entered in the succeeding grade.

The candidate for graduation must have attended four sessions of instruction in some recognized dental college, the last year of which must have been in this institution.

He must have satisfied the requirements of each of the several instructors and proved himself proficient in the theory and practice of Dentistry.

He must have attained the age of twenty-one years and be of good moral character.

Matriculation and Fees

Students may matriculate by mail by sending money order, or registered letter containing the amount of fee, \$5.00, to the University Registrar.

The Diploma fee must be paid by the first of April of the year of graduation.

A special ticket is issued at the close of each session to every student of the first, second and third year classes, as an evidence that he has been successful, or unsuccessful, in examinations for advancement to a higher grade, and also has attended a full session.

Special bulletin of the School of Dentistry may be obtained by addressing Dean T. O. HEATWOLE, University of Maryland School of Dentistry, Baltimore, Md., or The President, University of Maryland, College Park, Md.

College of Education

The College of Education is an organization of the various activities of the University concerned with the preparation of individuals for positions in the educational profession. Its courses are planned to serve three classes of students: First, those preparing to teach agriculture, arts and science, home economics and industrial subjects; second, prospective principals of high schools, educational supervisors, county agents, home demonstrators, boys' and girls' club workers, and other educational specialists; third, those majoring in special fields who desire courses in education for their professional and informational value.

DEGREES

Upon the completion of two hundred and four trimester hours graduates from the four-year curricula of the College of Education are awarded the degree of Bachelor of Science or Bachelor of Arts.

TEACHERS' SPECIAL DIPLOMAS

The degrees granted for work done in the College of Education indicate primarily the quantity of work completed. Teachers' special diplomas certify to the professional character of such work. Teachers' special diplomas will be granted only to those who, besides qualifying for a degree, give promise of superior professional ability as evidenced by their personality, character, experience and success in supervised teaching.

Teachers' special diplomas will be granted in agricultural education, arts and science education, home economics education, manual training and industrial education.

The recipient of a teachers' special diploma is eligible for certification by the State Superintendent of Schools without examination.

DEPARTMENTS

The College of Education is organized into two general divisions, viz.—General Education and Vocational Education. In the main the College includes work in the following departments offering general and professional training for teachers. Agricultural Education, Arts and Science Education, Home Economics Education, and Industrial Education.

EQUIPMENT

In addition to the general facilities offered by the institution as a whole, by special arrangement with the county and state school authorities the high school located at Hyattsville within two miles of the University is used for college credit work in teaching. The observation work so necessary for efficient

teacher training is conducted in Washington and in nearby Maryland schools. The nearness of these schools to the institution and the proximity of the federal offices and libraries dealing with education provide unusual opportunities for contact with actual class-room situations and current administrative problems in education.

CURRICULA

Two general classes of curricula leading to the degree of Bachelor of Science and Bachelor of Arts are offered.

The first of these provides fixed curricula permitting comparatively little election for the definite purpose of preparing teachers and supervisors of agriculture, home economics, manual training, and industrial subjects. As the University of Maryland is the institution designated by the State Board of Education for the training of teachers of vocational agriculture, home economics, and trades and industries under the provisions of the Smith-Hughes vocational education act, the curricula in this class have been organized to meet the objectives set up in the act and in the interpretations of the Federal Board for Vocational Education and the State Board of Education.

The second class provides a wide range of electives and seeks to train teachers of arts and science subjects and specialists for the profession of education. Although there are definite and fixed basic requirements, the student may choose from a number of subjects the major subject in which he expects to qualify for teaching. Correlated with this major may be other subjects which he may wish to teach.

A minimum of 30 hours in education is required as an integral part of all four-year curricula of the College of Education. This minimum includes the following: education in the United States, 3 hours; educational psychology, 5 hours; technic of teaching, 5 hours; an introductory teacher's course in the subject of specialization, 3 hours; special methods in the subject of specialization, 3 hours; principles of secondary education, 3 hours; teaching, 3 to 5 hours.

SPECIAL COURSES

By special arrangement courses in education are offered evenings and Saturdays to teachers in service and to those who may desire to qualify for teaching in the schools of Maryland after having had such work. College credit may be granted for this work if taken in course. Only a limited amount of service of this kind can be undertaken. School officials should make application for this work before arranging for it in their counties.

As the need for evening classes in industrial and home economics education arises, special courses will be offered at centers throughout the state. The number and location of these centers will depend entirely upon the need and demand for such instruction. The courses will be organized on the short unit basis and will be maintained only as long as the demand justifies them. Upon the satisfactory completion of such special curricula, students will be issued certificates stating the amount and character of work done.

In summer special courses are offered for the benefit of teachers in service and such individuals as may be able to qualify for teaching upon the completion of the work.

TEACHER TRAINING COURSES NECESSARY FOR PROSPECTIVE TEACHERS

Teacher training courses are necessary for prospective teachers, inasmuch as the State Board of Education will not certify persons to teach in the approved high schools of the state unless such persons have had adequate professional training for teaching.

Athletics and music are also valuable forms of training for the prospective teacher.

All students wishing to prepare for teaching should consult the Dean of the College of Education regarding possible combinations and the arrangement of their work. Upon matriculation each student is required to state the subjects for which he desires to prepare to teach and in the election of courses to secure the advice and approval of the head of the department in which these subjects fall. The previous training of the student, his experience, and his future needs govern the head of the department in his recommendations.

ARTS AND SCIENCE EDUCATION

Since the student electing this curriculum may become a candidate for either the Bachelor of Arts or the Bachelor of Science degree, he should upon his matriculation state the degree for which he wishes to qualify. Students wishing to prepare for the teaching of English, history, the social sciences, and language should become candidates for the degree of Bachelor of Arts. Those wishing to teach general and biological science, chemistry and physics should become candidates for the degree of Bachelor of Science.

Upon registration in this curriculum students should state the subjects in which they expect to qualify for teaching, designating a major and a minor interest. Candidates for the Bachelor of Arts degree must complete, in addition to the requirements of the curriculum, a minimum of nine credits in foreign language.

Students electing this curriculum may register either in the College of Education or the College of Arts and Sciences. In any case they will register with the College of Education for the special teacher's diploma.

ARTS AND SCIENCE EDUCATION

FRESHMAN YEAR	Term:	I	II	III
Composition and Rhetoric (Eng. 101-103)		3	3	3
Language (French, German, Spanish, Latin or Greek)		3	3	3
Gen. Chem. and Qual. Anal. (Gen. Chem. 101-103)		3	3	3
Algebra (Math. 106)		3	..	..
Plane Trigonometry (Math. 107)		..	3	..
Plane Analytical Geometry (Math. 108) or Solid Geometry (Math. 111)		..	..	3
History (His. 109-111)		3	3	3
Educational Guidance (Ed. 134-136)		1	1	1
Basic R. O. T. C. (M. I. 101-103)		2	2	2

SOPHOMORE YEAR	Term:	I	II	III
Public Education in United States (Ed. 101)		3	..	..
English (Eng. 119-121)		3	3	3
Political Science (Pol. Sc. 102-103)		..	3	3
Language (French, German, Spanish, Latin or Greek)		3	3	3
Zoology (Zool. 101-102)		4	4	..
Botany (Bot. 101)		..	..	4
Sociology (Soc. 104-106)		3	3	3
R. O. T. C.		2	2	2

JUNIOR YEAR	Term:	I	II	III
Educational Psychology (Ed. 102)		5	..	..
Technic of Teaching (Ed. 103)		..	5	..
Arts and Science Education (Ed. 113, 115, 117, 119, or 121)		..	..	3
English (Eng. 104-106)		2	2	2
Reading and Speaking (Pub. Sp. 101-103)		1	1	1
Electives		9-12	9-12	9-12

SENIOR YEAR	Term:	I	II	III
Arts and Science Education (Ed. 114, 116, 118, 120 or 122)		3	..	..
Principles of Secondary Education (Ed. 124)		..	3	..
*Teaching Arts and Science Subjects (Ed. 123)		..	..	..
Electives		14-17	14-17	14-17

*Credit, three to five hours. Given any term.

Requirements for a Degree

Upon the satisfactory completion of two hundred and four trimester hours under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Arts or for the degree of Bachelor of Science, depending upon the character of the work elected.

AGRICULTURAL EDUCATION

In addition to the regular entrance requirement of the University, involving graduation from a standard four-year high school, students electing the agricultural education curriculum must present evidence of having acquired adequate farm experience after reaching the age of fourteen years.

The electives allowed by this curriculum may be selected from any of the courses offered by the University for which the student has the necessary prerequisites. A student is expected, however, to confine his elections to subjects related to farming and to teaching. Though opportunity is afforded for specialization in a particular field of agriculture, such as animal husbandry, agronomy, pomology, vegetable gardening, or farm management, students should arrange their work so that approximately forty per cent. of their time will have been spent on technical agriculture, twenty-five per cent. on scientific subjects, twenty per cent. on subjects of a general educational character, and from twelve to fifteen per cent on subjects in professional education.

Students electing this curriculum may register either in the College of Education or the College of Agriculture. In either case they will register with the College of Education*for the special teacher's diploma.

AGRICULTURAL EDUCATION

FRESHMAN YEAR	Term:	I	II	III
Cereal Crops (Agron. 101)		4	..	..
Animal Husbandry (An. Hus. 101)		..	4	..
Elementary Vegetable Gardening (Hort. 101)		..	..	4
Gen. Chem. and Qual. Anal. (Gen. Chem. 101-103)		4	4	4
General Zoology (Zool. 101-102)		4	4	..
General Botany (Bot. 101)		..	..	4
Composition and Rhetoric (Eng. 101-103)		3	3	3
Educational Guidance (Ed. 134-136)		1	1	1
Basic R. O. T. C. (M. I. 101)		2	2	2

SOPHOMORE YEAR	Term:	I	II	III
*Public Education in the United States (Ed. 101)		3	..	..
Elementary Pomology (Hort. 102)		4	..	..
Feeds and Feeding (An. Hus. 102A)		3	3	..
Principles of Dairying (D. H. 101)		..	..	4
Grading Farm Crops (Agron. 103)		..	3	..
Forage Crops (Agron. 102)		..	..	4
General Geology (Geol. 101)		3	..	..
Principles of Soil Management (Soils 101-102)		..	3	3
Plant Physiology (Plt. Phys. 101-102)		..	4	3
Organic Chemistry (Org. Chem. 101-102)		3	3	..
General Entomology (Ent. 101)		..	..	3
Basic R. O. T. C. (M. I. 102)		2	2	2

NOTE: Students who have not had a substantial course in high school physics must carry Physics during this or subsequent years.

JUNIOR YEAR	Term:	I	II	III
Educational Psychology (Ed. 102)		5	..	..
Technic of Teaching (Ed. 103)		..	5	..
Secondary Vocational Agriculture (Ed. 104)		..	..	3
Dairy Production (D. H. 102)		4	..	..
Farm Poultry (An. Hus. 104)		..	..	3
Economics (Econ. 101-102)		3	3	..
Agricultural Economics (A. E. 101)		..	..	3
Advanced Composition (Eng. 104-106)		2	2	2
Public Speaking (Pub. Sp. 101-103)		1	1	1
Electives		3-5	6-8	6-8

SENIOR YEAR	Term:	I	II	III
Problems and practice in Teaching Secondary Vocational Agriculture (Ed. 105)		3	..	..
The Rural Community and Agr. Ed. (Ed. 128)		..	3	..
*Teaching Secondary Vocational Agriculture (Ed. 106)		..	..	..
Principles of Secondary Education (Ed. 124)		..	3	..
Farm Management (F. M. 101-102)		3	3	..
Electives		10-12	10-12	12-17

*Credit, three to five hours. Given any term.

HOME ECONOMICS EDUCATION

In addition to the regular entrance requirement of the University, involving graduation from a standard four-year high school, students electing home economics education must present evidence of two years' experience in the home as a house daughter during which time a large share of the responsibility in the management of the home was assumed.

Students may elect from other schools such courses as they may be qualified to enter. They are expected, however, to confine their election primarily to subjects related to home-making and teaching. The curriculum should be so arranged that approximately forty per cent. of the student's time will be spent on technical home economics subjects, twenty-five per cent. on scientific subjects, twenty per cent on subjects of general academic character, and from twelve to fifteen per cent. on subjects of a professional character.

Students electing this curriculum may register either in the College of Education or the College of Home Economics. In either case they will register with the College of Education for the special teacher's diploma.

Home Economics Education

FRESHMAN YEAR	Term:	I	II	III
Composition and Rhetoric (Eng. 101-103)		3	3	3
Gen. Inorganic Chem. and Qual. Anal. (Chem. 101-103)		4	4	4
Zoology (Zool. 101-102)		4	4	..
Botany (Bot. 101)		..	..	4
Educational Guidance (Ed. 134-136)		1	1	1
Clothing (Cloth. 101)		..	..	3
Social Psychology (Soc. 104-105)		3	3	..
Hygiene (No credit)		..	..	..
(And one of the following)				
History		3	3	3
Language		3	3	3
SOPHOMORE YEAR	Term:	I	II	III
*Public Education in the United States (Ed. 101)		3	..	..
Foods (Food 101-102)		5	..	4
Drafting and Elementary Dress Design (Cloth. 102)		..	5	..
Textiles (Tex. 101)		..	..	3
Millinery (Cloth. 103-104)		..	2	2
Art (Art 101)		3	..	..
Organic Chemistry (Org. Chem. 101-102)		3	3	..
English		..	3	3
(And one of the following)				
Language		3	3	3
Sociology		3	3	3
History		3	3	3

NOTE: Students who have not had a substantial course in high school physics must carry Physics during this or subsequent years.

JUNIOR YEAR

	Term:	I	II	III
Educational Psychology (Ed. 102)		5	..	..
Technic of Teaching (Ed. 103)		..	5	..
Secondary Vocational Home Economics (Ed. 107)		..	..	3
Costume and Design (Art 103)		3	..	..
Dressmaking (Cloth. 105-106)		..	3	3
Physiological Chemistry (Bio. Chem. 101)		4	..	..
Nutrition (Foods 103-104)		..	5	5
Bacteriology (Bact. 101-102)		3	3	..
Public Speaking		1	1	1
Electives		1-3	1-3	4-6

SENIOR YEAR

	Term:	I	II	III
Problems and Practice in Teaching Secondary Vocational Home Economics (Ed. 108)		3	..	..
*Teaching Secondary Vocational Home Econ. (Ed. 109)		..	..	..
Principles of Secondary Education (Ed. 124)		..	3	..
Child Care and Welfare (Ed. 134)		..	..	3
History of the Family (Ed. 130)		3	..	..
Education of Women (Ed. 131)		..	3	..
Household Management (H. M. 101-102)		3	3	..
Practice House (H. M. 103)		..	..	6
Marketing and Buying (H. M. 104)		2	..	..
Arts and Handicraft		..	..	2
Electives		5-8	5-8	5-8

*Credit, three to five hours. Given any term.

INDUSTRIAL EDUCATION

Three types of curricula are offered in Industrial Education, viz., a four-year curriculum, a two-year curriculum and a special curriculum. The first two are offered as resident work at the University and the third is offered at special centers in the State where occasion demands.

FOUR-YEAR CURRICULUM IN INDUSTRIAL EDUCATION FOR TEACHERS OF RELATED SUBJECTS

In addition to the regular entrance requirement of the University, involving graduation from a standard four-year high school, students electing the four-year curriculum in industrial education must be willing to engage in the trades or industries during the three summer vacations.

The electives allowed by this curriculum may be chosen from any of the courses offered in the University for which the student has the necessary prerequisites.

TWO-YEAR CURRICULUM IN INDUSTRIAL EDUCATION FOR TEACHERS OF RELATED SUBJECTS

This curriculum is designed for mature students who have had considerable experience in some trade or industry.

In addition to the above, applicants for admission to this curriculum must have as a minimum requirement an elementary school education or its equivalent

and must be willing to engage in the trades and industries during the summer vacation.

The curriculum will not be rigidly required as laid down, but will be made flexible, in order that it may be adjusted to the needs of students who present advanced credits for certain of the required courses.

SPECIAL COURSES FOR TEACHERS OF TRADE AND RELATED TRADE SUBJECTS

To meet the needs for industrial teacher training in Baltimore, two types of courses are offered of evenings in that city—one for teachers of trade subjects, the other for teachers of related trade subjects. The courses open about the last of September and close about the last of April. The class for teachers of trade subjects meets twice a week, the one for teachers of related trade subjects meets once a week. The recitation period in all cases is two hours.

Applicants for admission to these classes must have had considerable experience in the line of work they expect to teach, and must have, as a minimum requirement, an elementary school education or its equivalent. The credit allowed for these courses depends upon the amount and character of the work completed.

For teachers of trade subjects the term's work deals with the analysis and classification of trade knowledge for instructional purposes, the mechanics and technique of teaching, shop and class-room management, and the organization of industrial classes. The work for teachers of related subjects is similar to that described for teachers of trade subjects except that emphasis is placed upon the analysis of their specialties in relationship to the different trades with which they are articulated.

DESCRIPTION OF COURSES

GENERAL EDUCATION

ED. 101. *Public Education in the United States*—Three credit hours. First term. Open to sophomores, juniors and seniors. Required of all students in Education.

The evolution of public education in the United States as the expression and promoter of democracy, emphasizing particularly vocational education and present tendencies in reorganization; recent state and federal school laws; proposed legislation.

ED. 102. *Educational Psychology*—Five credit hours. First term. Open to juniors and seniors. Required of all juniors in Education.

General characteristics and use of original tendencies; principles of mental evolution and development; the laws and methods of learning; experiments in rate improvement; permanence and efficiency; causes and nature of individual differences; principles underlying mental tests; principles which should govern school practice.

ED. 103. *Technic of Teaching*—Five credit hours, four lectures and one laboratory period. Second term. Open to juniors and seniors. Required of juniors in Education. Prerequisite Ed. 102.

The nature of educational objective; steps of the lesson plan; observation and critiques; survey of teaching methods; type lessons; lesson planning; class management.

ED. 124. *Principles of Secondary Education*—Three credit hours. Second term. Required of all seniors in Education.

Evolution of secondary education, articulation of secondary schools with the elementary school, colleges, technical schools, and the community and the home; the junior high school; programs of study and the reconstruction of curricula; the teaching staff and student activities.

ED. 125. *Psychology of Childhood*—Three credit hours. Second term. Open to juniors and seniors. Required of juniors in Home Economics Education. Prerequisite Ed. 102.

The mental development and characteristics of children during the successive school ages stressing particularly pre-adolescence and adolescence needs.

ED. 126-127. *History of Education*—Two credit hours. Second and Third terms. Open to juniors and seniors.

History of the evolution of educational theory; institutions; and practices.

ARTS AND SCIENCE EDUCATION

ED. 113. *English in Secondary Schools*—Three credit hours. Third term. Open to juniors and seniors, required of juniors preparing to teach English. Prerequisite Ed. 103.

Objectives in English in the different types of secondary schools; selection of subject matter; state requirements and state courses of study; evaluation of the course of study in terms of modern practice and group needs.

ED. 114. *Problems and Practice in Teaching English in Secondary Schools*—Three credit hours. Two lectures and one laboratory period. First term. Required of seniors preparing to teach English. Prerequisite Ed. 113.

Psychological principles underlying the teaching of English in secondary schools; the organization of the materials; lesson plans; devices for motivating and socializing work; special methods and type lessons in teaching the different forms of literary composition; measuring results; observation and critiques.

ED. 115. *History and Civics in Secondary Schools*—Three credit hours. Third term. Open to juniors and seniors. Required of juniors preparing to teach history. Prerequisite Ed. 103.

Objectives of history and civics in secondary schools; selection of subject matter; parallel readings; state requirements and state courses of study; the development of civics from the community point of view; reference books, maps, charts and other auxiliary materials.

ED. 116. *Problems and Practice in Teaching History and Civics in Secondary Schools*—Three credit hours. Two lectures and one laboratory period. First term. Required of seniors preparing to teach history. Prerequisite Ed. 115.

Psychological principles underlying the teaching of history and civics in secondary schools; the organization of materials; lesson plans, devices for motivating and socializing work; maintenance of the citizenship objective; use of maps, charts, and note books in history teaching; checking and measuring results; observation and critiques.

ED. 117. *Foreign Language in Secondary Schools*—Three credit hours. Third term. Open to juniors and seniors. Required of juniors preparing to teach foreign language. Prerequisite Ed. 103.

Objectives of foreign language in secondary schools; selection of subject matter; state requirements and state courses of study; special devices and other auxiliary materials.

ED. 118. *Problems and Practices in Teaching Foreign Language in Secondary Schools*—Three credit hours. Two lectures and one laboratory period. First term. Required of seniors preparing to teach foreign language. Prerequisite Ed. 117.

Psychological principles underlying the teaching of foreign language in the secondary schools; the organization of material for teaching; lesson plans; devices for motivating and socializing work and the use of special material and charts; observation and critiques.

ED. 119. *Mathematics in Secondary Schools*—Three credit hours. Third term. Open to juniors and seniors. Required of juniors preparing to teach mathematics. Prerequisite Ed. 103.

Objectives of mathematics in secondary schools; selection of subject matter; state requirements and state courses of study; proposed reorganizations.

ED. 120. *Problems and Practices in Teaching Mathematics in Secondary Schools*—Three credit hours. Two lectures and one laboratory period. First term. Required of seniors preparing to teach mathematics. Prerequisite Ed. 119.

Psychological principles underlying the teaching of mathematics in secondary schools; lesson plans; devices for motivating and socializing work; checking and measuring results; observation and critiques.

ED. 121. *Science in Secondary Schools*—Three credit hours. Third term. Open to juniors and seniors. Required of juniors preparing to teach science. Prerequisite Ed. 103.

Objectives of science in secondary schools; selection of subject matter; state requirements and state courses of study; sources of material; reference books, laboratories and equipment.

ED. 122. *Problems and Practice in Teaching Science in Secondary Schools*—Three credit hours. Two lectures and one laboratory period. First term. Required of seniors preparing to teach science. Prerequisite Ed. 131.

Psychological principles underlying the teaching of science in secondary schools; the organization of materials for instruction; methods of the class period; lesson plans; the preparation and organization of laboratory instruction; note books.

ED. 123. *Teaching Arts and Science Subjects*—Three to five credit hours: determined by amount and character of work done. Given any term senior year. Required of seniors preparing to teach arts and science subjects. Subject selected depends upon the student's specialty. Ed. 114 or Ed. 116 or Ed. 118 or Ed. 120 or Ed. 122 must be offered as a prerequisite to or as a parallel of this course depending upon the student's specialty.

Observation; course outline; lesson plans; class teaching; critiques.

VOCATIONAL EDUCATION

ED. 134-136. *Educational Guidance*—One credit hour each term. Open to all freshmen. Required of freshmen in Education.

This course is designed to assist students in adjusting themselves to the demands and problems of college and professional life, and to guide them in the selection of college work during subsequent years. Among the topics discussed are the following: student finances; student welfare; intellectual ideals; recreation and athletics; general reading; student organizations; student government; the purpose of the college; the election of courses and the selection of extra curriculum activities.

ED. 137. *Theory of Vocational Education*—Three credit hours. Third term. Open to advanced undergraduates and graduate students by special arrangement.

Evolution of vocational education; educational and social forces behind the movement; terminology; types of industrial schools; technical high schools; vocational education for girls; vocational education in rural communities; recent legislation.

AGRICULTURAL EDUCATION

ED. 104. *Secondary Vocational Agriculture*—Three credit hours. Third term. Open to juniors and seniors. Required in Agricultural Education. Prerequisite, Ed. 103.

Theory of vocational education; terminology; the vocational education law; federal and state interpretations; purposes of secondary vocational agriculture; types of agricultural schools and classes; vocational analysis; curriculums and short courses; analysis of farm industries for instructional purposes—the farm job as the unit in analysis and the organization of material, essential knowledge, auxiliary knowledge, and farm shops; the analysis of farm industries by jobs; the classification and arrangement of farm jobs; essential knowledge, auxiliary knowledge, and farm shop for instructional purposes; the school practicum; the home practicum; the demonstration; the field trip; the home project method and its administration; records and reports; school plant and equipment.

ED. 105. *Problems and Practice in Teaching Secondary Vocational Agriculture*—Three credit hours. Two lectures and one laboratory period. First term. Required of seniors in Agricultural Education. Prerequisite, Ed. 104.

Relation of the agricultural teacher to the school system; preparation of the monthly outline; lesson planning; methods of the class period; the organization and conduction of practicums and shop work; the organization of project instruction, project study, project work and project supervision; the comparison of project records and reports; summer work of the agricultural teacher; community surveys; improvement of the agricultural library; selection of needed equipment; arrangement of daily programs; records and reports; community service; professional improvement; the first month's work; observation and critiques.

ED. 106. *Teaching Secondary Vocational Agriculture*—Three to five credit hours, determined by the amount and character of work done. Given any term senior year. Required of seniors in Agricultural Education. Ed. 105 must be offered as a prerequisite to or as a parallel of this course.

Observation; monthly outlines; lesson plans; class teaching; conferences; critiques.

ED. 128. *The Rural Community and Agricultural Education*—Three credit hours. Second term. Senior year. Required of seniors in Agricultural Education. Prerequisite, Ed. 104.

Community surveys from the point of view of the teacher of vocational agriculture; nature, structure, historical background and types of rural communities; the rural mind; essentials of social growth; rural needs; place of agricultural education in the rural school system; needed reorganizations and developments.

ED. 129. *History of Agricultural Education*—Three credit hours. Third term. Open to advanced undergraduates and graduates by special arrangement. Prerequisite Ed. 127.

This course attempts to trace the evolution of ideals in rural living and is intended primarily for those who expect to be called upon to assist in shaping the destinies of rural people. It embraces a study of literature—poetic, legislative, and pedagogic—in which the life of the farmer is used as a basis of social culture. It traces a recognition of country life in moral and intellectual training from the earliest records—biblical, classical, and historical.

ED. 138. *Problems and Practice in Agricultural Extension*—Three credit hours. Third term. Open to juniors and seniors.

Given under the supervision of the Extension Service and designed to equip young men to enter the broad field of extension work. Methods of assembling and disseminating the agricultural information available for the practical farmer; administration, organization, supervision and practical details connected with the work of a successful county agent, club worker, and extension specialist. Students will be required to engage in specialists', county agents' and boys' club work as assistants, always under the guidance of men experienced in the respective fields. Traveling expenses for this course will be adjusted; according to circumstances, the ability of the man, and the service rendered.

HOME ECONOMICS EDUCATION

ED. 107. *Secondary Vocational Home Economics*—Three credit hours. Third term. Open to juniors and seniors. Required of juniors in Home Economics Education. Prerequisite Ed. 103.

Theory of vocational education; interpretation of the Smith-Hughes law; aims and objectives of secondary vocational home economics; analysis of various home activities; organization of a course of study and its relation to the needs of the girl and the community; the school and the home project; school plant and equipment; reference books.

ED. 108. *Problems and Practice in Teaching Secondary Vocational Home Economics*—Three credit hours. Two lectures and one laboratory period. First term. Required of all seniors in Home Economics Education. Prerequisite Ed. 107.

Relation of the home economics teacher to the school; methods of instruction; lesson planning; conduct of a laboratory class; organization of the school and the home project instruction; records and reports; the improvement of the

home economics library; selection of needed equipment; arrangement of schedule; community service; professional improvement; the first month's work; study of types of class room work; observation and critiques.

ED. 109. *Teaching Secondary Vocational Home Economics*—Three to five credit hours, determined by the amount and character of work done. Given any term senior year. Required of seniors in Home Economics Education. Ed. 108 must be offered as a prerequisite to or as a parallel of this course.

Observation, monthly outlines; lesson plans; application of the principles of the technic of teaching; conduct of laboratory class; class teaching; conference and critiques.

ED. 130. *History of the Family*—Three credit hours. First term. Required of seniors in Home Economics Education.

History of the family from the early ages to the present time; the industrial revolution and its effect upon family life.

ED. 131. *Education of Women*—Three credit hours. Second term. Open to juniors and seniors. Required of seniors in Home Economics Education.

Women's work in relation to the home and to society; opening of occupations and professions to women; modern problems of women; civic, educational, industrial and family responsibilities.

ED. 132. *Child Care and Welfare*—Three credit hours. Third term. Required of seniors in Home Economics Education.

Child psychology from the standpoint of development; health, habits, play and recreation.

ED. 139. *Problems and Practice in Home Economics Extension Work*—Three credit hours. Third term.

The Smith-Lever Act; various phases of extension work and relation of the extension service to the home, community, and country; analysis of home making activities and the study of the problems of the home; organization of subject matter; use of illustrative material; scope of women's study groups; boys' and girls' club work.

INDUSTRIAL EDUCATION

ED. 110. *Industrial Education in Secondary Schools*—Three credit hours. Third term. Open to juniors and seniors. Required of juniors in Industrial Education. Prerequisite, Ed. 103.

Theory of vocational education; purposes of industrial education; types of industrial schools; vocational and trade analysis; place of auxiliary knowledge; related trade courses; industrial school population; materials and equipment; relation of the industrial teacher to the school system.

ED. 111. *Problems and Practice in Teaching Industrial Education in Secondary Schools*—Three credit hours. Two lectures and one laboratory period. First term. Required of seniors in Industrial Education. Prerequisite Ed. 110.

Problems of the related trade teacher as they arise in connection with trade analysis; lesson planning; methods of the class period; discipline; organization and management; observation and critiques.

ED. 112. *Teaching Industrial Subjects in Secondary Schools*—Three to five credit hours, determined by the amount and character of work done. Given

any term senior year. Required of seniors in Industrial Education. Ed. 111 must be offered as a prerequisite to or as a parallel of this course.

Observation; outlines; lesson plans; class teaching; conferences and critiques.

ED. 131. *History of Industrial Education*—Three credit hours. Second term. Open to seniors and graduate students.

History of the origin and development of industrial education in the light of group needs; industrial education in the United States; development of schools; present problems in reorganization.

College of Engineering

Whether a man follows engineering as his life's work or enters other fields, it is well recognized that the training received in the engineering colleges of today affords a splendid preparation that fits him for many callings in public and private life outside of the engineering profession.

The College of Engineering, which includes the Departments of Civil, Electrical and Mechanical Engineering, is undergoing a reorganization. The general purpose is to broaden the courses of instruction the better to prepare young men to enter the public service. The large public works program contemplated in practically every state in the union makes urgent the demand for engineers trained for such work. The public service demands the electrical and mechanical as well as the civil engineer. Maryland needs such men to carry on her great highway work and large public undertakings contemplated in various cities and counties. Such training seems preeminently a function of the State's university.

It is not the intention that the subject matter of the courses shall be essentially different from that usually given, but that the viewpoint of the student and the application of the principles will be that of public service. In order to give the time necessary both to the technical subjects and to those of a more general character, a careful revision of all courses of study is being made so that the utmost time available in each term may be used to the best advantage.

Beginning with the college year of 1921, it is expected to have the curriculum so arranged as to prescribe the same courses of study for all freshmen and all sophomores, respectively, in the Engineering College. Among other advantages that will accrue from such a change, is the very important one that a young man will not be called upon to decide the branch of engineering in which he will specialize until his junior year.

The changes contemplated will necessitate a somewhat greater amount of preparation than the standard at present prescribes, and the hearty and sympathetic co-operation of the high schools of the state is asked that Maryland boys may be even better prepared for their university work to the end that they may be well qualified to enter on their life's work with the best possible university training.

Engineering research is recognized today as one of the most needed useful contributions that the engineering colleges can make to the state. Work of this character is already under way at the University of Maryland where, through the co-operation with the U. S. Bureau of Public Roads and the Maryland State Roads Commission, highway research problems are being studied, the solution of which will prove of utmost value to the people of the state. It is planned to develop as rapidly as possible this phase of the work which will have, aside from its great economic value to the state, an important educational

value due to the close contact the students will have with the live engineering problems of today.

The war brought prominently before all people the work done by the engineers and now a most important part is played by the profession in the reconstruction problems that confront, not alone the countries of Europe, but the United States as well. The opportunities for the well trained engineer were never greater than at present. Great projects are under way and even greater contemplated, which the engineer of the future will be called upon, not only to build, but to initiate. He will require the broadest training he can secure. He must know more than merely the technique of his profession, he must be able to grasp the economic problems that underlie all great public works. It is towards such a training and understanding that the courses in the College of Engineering are being developed.

Bachelor Degrees in Engineering

Courses leading to the degree of Bachelor of Science are offered in Civil, Electrical and Mechanical Engineering, respectively.

Professional Degrees in Engineering

The degrees of Civil Engineer, Electrical Engineer or Mechanical Engineer will be granted only to graduates of the University who have obtained a bachelor's degree in engineering. The applicant must satisfy the following conditions:

1. He shall have engaged successfully in acceptable engineering work for three years.
2. His registration for a degree must be approved at least 12 months prior to the date at which the degree is sought. He shall present with his application a complete report of his engineering experience and an outline of his proposed thesis.
3. He shall present a satisfactory thesis on an approved subject.
4. He must be considered eligible by a committee composed of the Dean of the College of Engineering and the heads of the Departments of Civil, Electrical, and Mechanical Engineering.

EQUIPMENT

The Engineering building is equipped with lecture-rooms, recitation-rooms, drafting-rooms, laboratories and shops for all phases of engineering work.

Drafting-Rooms

The drafting-rooms are equipped for practical work. Engineering students must provide themselves with approved drawing outfit, material and books, the cost of which during the freshman year amounts to about \$25.

Electrical Engineering Laboratory

This laboratory is fitted with such appliances as may be used to the best advantage in engineering practice. These include a potentiometer and standard instruments for calibrating the various measuring instruments used in the laboratory. A Sharp-Miller portable photometer and a standard photometer for measuring the candle-power of lamps and for determination of illumination intensities. A large number of portable ammeters, voltmeters and indicating

wattmeters for direct and alternating current measurements, electrostatic voltmeter, frequency meters, silver and copper voltameters, Siemen's type electro-dynamometer, watthourmeters and an oscillograph.

A Curtis steam turbine, direct connected to a 35-kilowatt compound generator, has been installed for testing purposes. This may be used in connection with the University lighting plant when needed and will be used for light and power service in the Engineering Building.

The laboratory is so wired that connection may be made readily between any part of the University lighting plant and the turbo-generator or any of the apparatus in the dynamo-room.

The apparatus in the dynamo-room includes the following; A 10-kilowatt rotary converter of the latest type, with speed limit and end play devices; five-horse-power variable speed, commutating pole motor; a 7.5-kilowatt, 60-cycle, 220-volt alternator designed to operate either as a polyphase generator, synchronous motor, frequency changer, constant speed induction motor or variable speed induction motor. The following parts are supplied with the set to make possible its operation in any of the above-named ways: a stationary armature for use either as an alternating current generator or as an induction motor field; a revolving field, a squirrel cage induction motor rotor with starting compensator having self-contained switches; an induction motor rotor with 3-phase collector rings, external resistance and controller; a 2-kilowatt booster set; a five-horse-power compound direct current motor and a 1.5 horse-power shunt motor fully inclosed; a 7.5-kilowatt, 120-volt, 3-phase self-excited generator direct connected to a 115-volt compound direct current motor; a motor generator set consisting of a 3.6-horse-power shunt motor direct connected to a 2-kilowatt generator; several small D. C. and A. C. motors and generators; two 2-kilowatt transformers to transform power from 110 or 220 volts to 1100 or 2200 volts.

The main switchboards are used to mount the necessary circuit apparatus to control the generators and motors as well as the various circuits in the dynamo-room and testing laboratory. In addition to the special electrical engineering equipment, the University lighting plant will be used for illustrative and experimental purposes. This plant contains, together with other apparatus useful in teaching electrical engineering, two Bullock generators of 40 kilowatts total capacity.

The telephone laboratory is well equipped with apparatus for the magneto and common battery systems.

Mechanical Engineering Laboratory

Among the apparatus installed in the laboratory are a cross compound condensing Corliss engine of 50-horse-power, equipped with brake, indicators, relief valves, reducing motion, steam and vacuum gauges and speed indicator, which gives ample opportunity for steam consumption and brake tests. This is connected with the shops, so that at any time it may be switched on and drive them. The University power plant, with its vacuum heating system, three 100-horse-power return tubular boilers and two electric generating units, offers opportunities for experimental work. An eight-horse-power, four-cycle gasoline engine equipped with prony brake permits the making of tests in gas engineering.

Materials Laboratory

In this laboratory the apparatus for testing materials includes a 100,000-pound Riehle combined hand and power-testing machine for making tensile, compression, shearing and transverse tests on various kinds of materials; a 1,000-pound Riehle machine for testing cement briquettes, etc.

Highway Research Laboratory

A special core drill apparatus of latest design for taking samples from concrete roads has been installed, the whole including engine, pump, etc., being mounted upon a truck. Extensive work in this particular line of research has been planned and is under way. As the research develops additional equipment will be added.

Hydraulic Laboratory

Apparatus suitable for the determination of the coefficient of discharge for small orifices, weirs, etc., has been installed in this laboratory. Experimental work in stream gauging is made on the streams in the vicinity.

The Shops

The shops are well lighted and admirably adapted to the purpose for which they were designed. The wood-working shop contains accommodations for bench work and wood turning. The power machinery in this shop is a band and universal circular saw, one 16-inch by 10-foot pattern-maker's lathe, three grindstones, a wood trimmer, 26-inch wood planer, 14-inch joiner and universal tool grinder.

In the forge shops are sixteen power forges, one hand forge, a power emery grinder, and a pressure fan and exhauster for keeping the shop free of smoke. There is a full assortment of smith's tools for each forge.

The foundry is equipped with an iron cupola, which melts 1,200 pounds of iron per hour, a brass furnace, one core oven and the necessary flasks and tools.

The machine shop equipment consists of one 10-inch speed lathe, one 22-inch engine lathe with compound rest, one 12-inch combined foot and power lathe, two 14-inch engine lathes, one 25-inch drill press, one No. 4 emery tool grinder, one No. 1½ universal milling machine and an assortment of vises, taps, dies, pipe-tools and measuring instruments.

The machinery of the pattern and machine shops is driven by a 9 by 14-inch automatic cut-off, high-speed engine, built by members of the junior and senior mechanical engineering classes, after the standard design of the Atlas engine. An 8 by 12-inch engine drives the machinery of the blacksmith shop and foundry.

Surveying Equipment and Models

This equipment includes a number of transits, levels, compasses, plane tables and minor instruments for use in plane, topographic, railroad, highway and geodetic surveying. These are added to as the necessity for other equipment arises. The models include various types of roads, bridges, culverts, etc.

Libraries

Each department contains a well selected library of books for reference and the standard engineering magazines. Students are encouraged to take advan-

tage of the opportunity for reading afforded in the departmental as well as in the general library.

CURRICULA

The normal curriculum of each department is outlined on the following pages. Students are also required to attend and take part in the meetings of the Engineering Society and Seminar and engineering lectures.

In addition to the requirements of the regular courses of study all students in the Engineering college are required during each of the three summer vacations to obtain employment in some lines of commercial work, preferably that which relates to engineering. Unless the student can offer some adequate reason why he has not been so employed during at least two months of each of his summer vacation periods it may be considered sufficient cause for withholding his degree.

The proximity of the University to Baltimore and Washington and to other places where there are great industrial enterprises offers an excellent opportunity for engineering students to observe what is being done in their chosen field. An instructor accompanies students on all trips of inspection.

Freshman Year.

Required of all students in Engineering.

	Term:	I	II	III
Composition and Rhetoric (Eng. 101-103).....		3	3	3
Oral English (P. S. 101-103).....		1	1	1
Modern Language.....		3	3	3
Trigonometry, Analytic Geometry (Math. 101-103).....		5	5	5
Chemistry (Inorg. Chem. A-B, 101-103).....		4	4	4
Engineering Drafting (Dr. 101-103).....		1	1	1
Shop and Forge Practice (Shop 101-103).....		1	1	1
Military Science (R. O. T. C.) (M. I. 101).....		2	2	2
Engineering Lectures.....		..	..	..

Sophomore Year

Required of all students in Engineering.

	Term:	I	II	III
Oral English (Pub. Sp. 104-106).....		1	1	1
*Modern Language (Adv. Course).....		3	3	3
*Modern and Contemporary History (His. 109-111).....		3	3	3
Advanced Algebra, Dif. and Intg. Calculus (Math. 104-106)		5	5	5
Physics (Phys. 101-103).....		5	5	5
Descriptive Geometry (Dr. 104-106).....		2	2	2
Machine Shop Practice (Shop 104-106) (M. & E.).....		1	1	1
Civil.....		1	..	..
Military Science (R. O. T. C.) (M. I. 102).....		2	2	2
Plane Surveying (Surv. 101-103) (M. & E.).....		1	2	..
Civil.....		1	2	2
Engineering Lectures.....		..	..	..

*Alternatives

CIVIL ENGINEERING CURRICULUM

Junior Year

Beginning 1922-1923

	Term:	I	II	III
*Current History (His. 101-103).....		1	1	1
*Political Economy (Econ. 101-103).....		3	3	3
*Oral English (Pub. Sp. 107-109).....		1	1	1
*Engineering Geology (Geol. 101-103).....		1	1	1
*Engineering Mechanics (Mech. 101-103).....		3	3	3
†Military Science (R. O. T. C.).....		..	..	..
Advanced Course (M. I. 103).....		3	3	3
*Prime Movers (Engr. 107-109).....		3	3	3
Design, Structures, Elements (C. E. 101-103).....		3	3	3
Materials of Engineering (C. E. 104).....		3	..	..
Masonry Construction (C. E. 105).....		..	3	..
Advanced Surveying (Surv. 104).....		..	..	3
Engineering Lectures.....		..	..	..

Senior Year

Beginning 1923-1924

	Term:	I	II	III
*Oral English (Pub. Sp. 110-112).....		1	1	1
*Engineering Jurisprudence (Engr. 101-103).....		1	1	1
(Seminar Course, one afternoon a week)		..	..	..
*Public Utilities (Engr. 104-106).....		1	1	1
*Engineering Chemistry (Chem. 109-111).....		1	1	1
†Military Science (R. O. T. C.).....		..	..	..
Advanced Course (M. I. 104).....		3	3	3
Highways (C. E. 106-108).....		4	4	4
Design.—Masonry Structures (C. E. 109-111).....		3	3	3
Design.—Steel Structures (C. E. 112-114).....		3	3	3
Sanitation (C. E. 115-117).....		3	3	3
†Railroads (C. E. 118-120).....		1	1	1
†Sanitary Science (Public Health) (C. E. 121-123).....		1	1	1
†Drainage and Irrigation (C. E. 124-126).....		1	1	1
Engineering Lectures.....		..	..	..

*Required of all Engineering students.

†Alternatives

†Open as an extra course to those Engineering students only who have average grades of A or B for both Freshman and Sophomore years.

ELECTRICAL ENGINEERING CURRICULUM

Junior Year

Beginning 1923-1924

	Term:	I	II	III
*Current History (His. 101-103).....		1	1	1
*Political Economy (Econ. 101-103).....		3	3	3
*Oral English (Pub. Sp. 107-109).....		1	1	1
*Engineering Geology (Geol. 101-103).....		1	1	1
*Engineering Mechanics (Mech. 101-103).....		3	3	3
†Military Science (R. O. T. C.).....		3	3	3
Advanced Course (M. I. 103).....		..	..	..
Design.—Machine, Elements (M. E. 101).....		4	..	..
Direct Currents (E. E. 101-103).....		2	6	6
*Prime Movers (Engr. 107-109).....		3	3	3
Engineering Lectures.....		..	..	..

*Required of all Engineering students.

†Open as an extra course to those Engineering students only who have average grades of A or B for both Freshman and Sophomore years.

Senior Year

Beginning 1923-1924

	Term:	I	II	III
*Oral English (Pub. Sp. 110-112).....		1	1	1
*Engineering Jurisprudence (Engr. 101-103).....		1	1	1
(Seminar Course, one afternoon a week)		..	..	..
*Public Utilities (Engr. 104-106).....		1	1	1
*Engineering Chemistry (Chem. 109-111).....		1	1	1
†Military Science (R. O. T. C.).....		3	3	3
Advanced Course (M. I. 104).....		..	..	..
Alternating Currents (E. E. 104-106).....		5	5	5
Design.—Electric Machine (E. E. 107-109).....		2	2	2
Telephones, Telegraphs, Electric Railways (E. E. 110-112).....		3	3	3
Illumination, Electric Power Transmission, Radio Telegraphy and Telephony (E. E. 113-115).....		4	4	4
Engineering Lectures.....		..	..	..

*Required of all Engineering students.

†Open as an extra course to those Engineering students only who have average grades of A or B for both Freshman and Sophomore years.

MECHANICAL ENGINEERING CURRICULUM

Junior Year

Beginning 1922-1923

Term:	I	II	III
*Current History (His. 101-103).....	1	1	1
*Political Economy (Econ. 101-103).....	3	3	3
*Oral English (Pub. Sp. 107-109).....	1	1	1
*Engineering Geology (Geol. 101-103).....	1	1	1
*Engineering Mechanics (Mech. 101-103).....	3	3	3
Foundry Practice (Shop 107).....	..	..	2
†Military Science (R. O. T. C.).....	3	3	3
Advanced Course (M. I. 103).....	..	..	..
Design.—Machine, Elements (M. E. 101-103).....	4	4	4
*Prime Movers (Engr. 107-109).....	3	3	3
Kinematics (Mech. 104-106).....	2	2	..
Engineering Lectures.....	..	..	..

*Required of all Engineering students.

†Open as an extra course to those Engineering students only who have average grades of A or B for both Freshman and Sophomore years.

Senior Year

Beginning 1923-1924

Term:	I	II	III
*Oral English (Pub. Sp. 110-112).....	1	1	1
*Engineering Jurisprudence (Engr. 101-103).....	1	1	1
(Seminar Course, one afternoon a week)	..	..	..
*Public Utilities (Engr. 104-106).....	1	1	1
*Engineering Chemistry (Chem. 109-111).....	1	1	1
†Military Science (R. O. T. C.).....	3	3	3
Advanced Course (M. I. 104).....	..	..	..
Design.—Prime Movers (M. E. 104-106).....	3	3	3
Design.—Power Plants (M. E. 107-109).....	2	2	2
Design.—Pumping Machinery (M. E. 113).....	..	2	..
Thermodynamics (Mech. 107-109).....	3	3	3
Sanitation (C. E. 115-117).....	3	3	3
Factory Organization (M. E. 110).....	2	..	..
Mechanical Laboratory (M. E. 111-112).....	1	1	..
Heating and Ventilation (M. E. 114).....	..	..	3
Engineering Lectures.....	..	..	..

*Required of all Engineering students.

†Open as an extra course to those Engineering students only who have average grades of A or B for both Freshman and Sophomore years.

DESCRIPTION OF COURSES

CIVIL ENGINEERING

C. E. 101-103. *Elements of Design of Structures—Steel Structures*—Three credit hours. First and second terms. Lectures and laboratory. Required of juniors in Civil Engineering.

Design of steel beams and columns. Analysis of stresses in roof trusses, plate girders, bridge trusses and steel buildings. The preliminary steps towards complete design of these structures.

Reinforced Concrete—Three credit hours. Third term. Lectures and laboratory. Required of juniors in Civil Engineering.

The fundamental principles of the theory and practice of reinforced concrete construction, with applications to the design of beams, slabs and columns.

C. E. 104. *Materials of Engineering*—Three credit hours. First term. Lectures and laboratory. Required of all juniors in Engineering.

The composition, manufacture and properties of the principal materials used in engineering and of the conditions that influence their physical characteristics. The interpretation of specifications and of standard tests. Laboratory work in the testing of steel, wrought iron, timber, brick, cement and concrete.

C. E. 105. *Masonry Construction*—Three credit hours. Second term. Required of juniors in Civil Engineering.

The methods employed in the construction of masonry structures; including foundations, dams, retaining walls, piers, abutments, culverts, and arches. Preliminary steps towards complete design of these structures.

C. E. 106-108. *Highways*—Four credits hours each term. Lectures and field work. Required of seniors in Civil Engineering. Open only to Engineering students of senior standing.

First term: The principles of location, construction and maintenance of roads and pavements.

Second term: Highway contracts and specifications, covering the proposal, bidding and letting of contracts, and a complete analysis of the items that comprise the specifications. A discussion of the cost of highways both to the public and to the contractor and an analysis of the items that influence costs.

Third term: The road laws of the various states, Highway Department organizations. Highway transportation and its interrelationship to other methods of transportation, highway traffic, highway economics and highway financing.

Field and drafting room work consists of the necessary surveys, plans and estimates of cost for the construction of a section of improved road.

C. E. 109-111. *Design of Masonry Structures*—Three credit hours each term. Lectures and laboratory. Required of seniors in Civil Engineering. Prerequisite C. E. 105, Mech. 101-103.

The complete design and detailing of structures of concrete and of stone; including retaining walls, dams, arches, and bridges, and the preparation of plans and bills of materials.

C. E. 112-114. *Design of Steel Structures*—Three credit hours each term. Lectures and laboratory. Required of seniors in Civil Engineering. Prerequisite C. E. 101-103, Mech. 101-103.

The complete design and detailing of steel structures, a continuation of C. E. 101-102.

C. E. 115-117. *Sanitation*—Three credit hours each term. Lectures and laboratory. Required of seniors in Civil Engineering. Prerequisite, Mech. 101-103.

Water supply and sewage disposal. Methods of estimating consumption-design of water system. Estimating quantity of sewage and design of sewage systems. Complete designs are prepared for water supply and sewage disposal for a given community.

C. E. 118-120. *Railroads*—One credit hour each term. One afternoon per week. Prerequisite Surv. 104. Alternative for seniors in Civil Engineering.

The theory and practice of railroad design, construction, operation and maintenance. Field and drafting room work consists of a reconnaissance and survey of a short railroad and preparation of the map, profiles and estimates from the survey.

C. E. 121-123. *Sanitary Science (Public Health)*—One credit hour each term. Seminar course one afternoon per week. Alternative, open only to seniors in Civil Engineering.

State and municipal sanitary laws, organization and functions of state and municipal health departments, public health surveys.

C. E. 124-126. *Drainage and Irrigation*—One credit hour each term. One afternoon per week. Alternative, open only to seniors in Civil Engineering.

The application of engineering principles to the design and construction of drainage and irrigation works. Field and drafting room work consists of surveying, designing and laying out a proposed drainage project.

ELECTRICAL ENGINEERING

E. E. 101-103. *Direct Currents*—Two credit hours first term, six credit hours (two laboratory periods and four lectures) second and third terms. Prerequisite Phys. 101, Math. 104-106, Inorg. Chem. 101-103.

Principles of design, construction and operation of direct current generators and motors, direct current control apparatus, auxiliary apparatus used in connection with storage batteries.

Laboratory experiments on the calibration of instruments, and commercial tests on direct current generators and motors.

E. E. 104-106. *Alternating Currents*—Five credit hours: three lectures and two laboratory periods each term. Prerequisite E. E. 101-103.

Analytical and graphical problems on series and parallel alternating current circuits, construction and practical applications of single phase and polyphase generators, synchronous and induction motors, synchronous converters, transformers, single phase series motors, switchboard appliances, the use of the oscillograph in connection with various experiments to show current and

voltage phase relations in series and parallel alternating current circuits, alternating current power measurement, characteristics of synchronous and induction generators and motors, single phase transformers and synchronous converters.

E. E. 107-109. *Electric Machine Design*—Two credit hours each term. Prerequisite, E. E. 101-103 and M. E. 101.

Materials of construction and design of the electric and magnetic circuits of a direct current motor or generator, principles of design of the electric and magnetic circuits of alternating current generators, motors and transformers and a complete design either of an alternating current generator, motor or transformer.

E. E. 110-112. *Telephones, Telegraphs and Electric Railways*—Three credit hours each term. Two lectures and one laboratory period.

History and principles of magneto telephone and variable resistance transmitter, carbon transmitter, telephone receiver, induction coils, and calling equipment. These various components of the telephone then are studied as a complete unit in the local battery and common battery telephones. Magneto and common battery switches used in telephone exchanges, automatic telephone and the operation of simple, duplex and quadruplex telegraphy.

In the laboratory the units are assembled and operated.

Traffic studies, train schedules, motor characteristics and the development of speed—distance and power—time curves, systems of control, motors and other railway equipment, electrification system for electric railways, including generating apparatus, transmission lines, substations and distribution and utilization of electrical energy for car operation; electrification of steam roads and application of signal systems, problems in electric railway operation, beginning with the selection of proper car equipment and ending at the substation.

E. E. 113-115. *Illumination*—Four credit hours. Three lectures and one laboratory period. First term.

Electric Power Transmission—Four credit hours. Four lectures. Second term.

Radio Telephones and Telegraphs—Four credit hours. Three lectures and one laboratory period. Third term. Prerequisite, E. E. 110-112.

Series systems of distribution, methods of street lighting, calculation of voltage drop, regulation, weights of wire and the methods of feeding parallel systems, principles and units used in illumination work, lamps and reflectors, candle power measurements of lamps, measurement of illumination intensities, and calculations for the illumination of laboratories and class rooms; survey of the electrical equipment required in central stations and substations, transmission of electrical power, including poles, towers, lines, etc.; practical problems to illustrate the principles of installation and operation of power machinery.

Principles of radio telegraphy and telephony, construction and operation of modern transmitters, antennae and receiving circuits, with special emphasis on the use of the vacuum tube both for transmitting and receiving wireless signals, experiments with various types of receiving apparatus.

DRAFTING

DR. 101-103. *Engineering Drafting*—One credit hour each term. One laboratory period. Required of all freshmen in Engineering.

Freehand Drawing—Lettering, exercises in sketching of technical illustrations and objects, proportion and comparative measurements.

Mechanical Drawing—Use of instruments, projections and working drawings, drawing to scale in pencil and in ink, topographic drawing, tracing and blue printing.

DR. 104-106. *Descriptive Geometry*—Two credit hours each term. Two laboratory periods. Required of all sophomores in Engineering.

First Term—Orthographic projection as applied to the solution of problems relating to the point, line and plane, intersection of planes with solids and development.

Second Term—Generation of surfaces; planes, tangent and normal to surfaces; intersection and development of curved surfaces.

Third term—Shades and shadows, perspective, map projection.

GENERAL ENGINEERING

ENGR. 101-103. *Engineering Jurisprudence*—One credit hour each term. Seminar course of one afternoon per week. Required of all Engineer students of senior standing.

A study of the fundamental principles of law relating to business and to engineering; including contracts, agency, sales, negotiable instruments, corporations and common carriers. These principles are then applied to the analysis of general and technical clauses in engineering contracts and specifications.

ENGR. 104-106. *Public Utilities*—One credit hour each term. Open only to students of senior standing. Prerequisite Econ. 101-103.

The development of public utilities, franchises, functions, methods of financing and control of public utilities. Service standards and their attainment in electric, gas, water, railway and other utilities. The principles that have been adopted by the courts and public service commissions for the evaluation of public utilities for rate making and other purposes.

ENGR. 107-109. *Prime Movers*—Three credit hours each term. Lectures and laboratory. Required of all juniors in Engineering. Prerequisite Math. 104-106.

Salient features of the operation of steam, gas, hydraulic and electric prime movers and pumps. Comparison of types of each, methods of assembling or setting up in place for operation. Service tests.

MECHANICS

MECH. 101-103. *Engineering Mechanics*—Three credit hours each term. Required of all juniors in Engineering. Prerequisite Math. 104-106.

Applied Mechanics—The analytical study of statics dealing with the composition and resolution of forces, moments and couples, machines and the laws of friction, dynamics, work, energy and the strength of materials.

Graphic Statics—The graphic determination of stresses in framed structures.
Elements of Hydraulics—Flow of water in pipes, through orifices and in open channels. Determination of the coefficient of discharge, velocity and contraction in pipes and orifices.

MECH. 104-106. *Kinematics*—Two credit hours. First and second terms. Required of juniors in Mechanical Engineering. Prerequisite Math. 104-106.
Principles—Determination of the instantaneous axis and instantaneous center. Analysis of displacement, velocity and acceleration diagrams. Design of cams. Form of tooth outline in the epicycloidal and involute systems of gearing.

MECH. 107-109. *Thermodynamics*—Three credit hours each term. Lectures and laboratory. Required of seniors in Mechanical Engineering. Prerequisite Mech. 101-103.

Laws underlying the fundamental equations. Perfect gases. Relation between pressure, volume, temperature, work and heat of special changes of state. Calculation and drawing of Carnot's cycle and temperature entropy diagrams.

MECHANICAL ENGINEERING

M. E. 101-103. *Elements of Machine Design*—Four credit hours each term. Lectures and laboratory. M. E. 101 required of Mechanical and Electrical junior engineers, M. E. 102-103 required of junior Mechanical engineers.

The application of the principles involved in determining the proportions and form of machine parts. The design of bolts, screws, shafting, gears, springs, crabs and winches.

M. E. 104-106. *Design of Prime Movers*—Three credit hours each term. Lectures and laboratory. Required of seniors in Mechanical Engineering. Prerequisite M. E. 101-103.

Analysis of the stress in gas and steam engines. Proportioning the essential parts and estimating the cost of each. The steam boiler; its design and cost.

M. E. 107-109. *Design of Power Plants*—Two credit hours each term. Lectures and laboratory. Required of seniors in Mechanical Engineering. Prerequisite M. E. 101-103.

The design of a complete power plant; including specifications, the building and the lay out of the equipment.

M. E. 110. *Factory Organization*—Two credit hours first term. Required of seniors in Mechanical Engineering.

Discussions relating to manufacturing processes. Time systems and cost accounting. Piece work versus day work. The ebb and flow of labor. The economic expansion of business considered from the personal equation side.

M. E. 111-112. *Mechanical Laboratory*—One credit hour first and second terms. Required of seniors in Mechanical Engineering. Prerequisite Mech. 101-103.

Calibration of steam gauges and indicator springs. Indicated and brake horsepower of steam and gas engines. Setting of valves of plain slide valve and Corliss steam engines and gas engines. Operation of steam and gas engines.

M. E. 113. *Design of Pumping Machinery*—Two credit hours. Second term. Required of seniors in Mechanical Engineering. Prerequisite M. E. 101-103, Mech. 101-103.

Elementary design of double acting steam pumps and centrifugal pumps. The air lift and the hydraulic ram. Distributing system of water supply in a manufacturing establishment.

M. E. 114. *Heating and Ventilation*—Three credit hours. Third term. Required of seniors in Mechanical Engineering. Prerequisite Mech. 101-103, Mech. 107-108.

The principles of heating and ventilation. Radiating surfaces. Steam, hot water and hot air systems. Vacuum and vapor systems.

SHOP

SHOP 101-103. *Shop and Forge Practice*—One credit hour each term. Required of all freshmen in Engineering.

The use and care of wood working tools, exercise in sawing, planing, mortising, tenoning and laying out work from blue prints. Principles of pattern making with sufficient foundry practice to demonstrate the uses of pattern making. Forging of iron and steel, welding and making of steel tools.

SHOP 104-106. *Machine Shop Practice*—One credit hour each term. Required of all sophomores first term, required of sophomores in Mechanical and Electrical Engineering second and third terms. Prerequisite Shop 101-103.

SHOP 107. *Foundry Practice*—Two credit hours. Third term. Required of juniors in Mechanical Engineering. Prerequisite, Shop 104-106.

Molding in brass and iron. Core making. The cupola and its management. Lectures on selection of iron by fracture, fuels and the mixing and melting of metals.

SURVEYING

SURV. 101-103. *Plane Surveying*—One credit hour. First term. Two credit hours. Second and third terms. Lectures and field work. Required of sophomores in Civil Engineering, first, second and third terms, and of sophomores in Electrical and Mechanical Engineering first and second terms. Prerequisite Math. 101.

The theory and practice of plane surveying; including the use and adjustment of the transit, level, plane table and minor surveying instruments. Solution of practical problems in giving lines and grades for buildings, shafting and foundation, and in laying out curves. The computation of area and of earth work, and the principles of plan and map making and map reading.

SURV. 104. *Advanced Surveying*—Three credit hours. Third term. Lectures and field work. Required of juniors in Civil Engineering. Prerequisite, Surv. 101-103.

Practical astronomy and geodetic surveying. The determination of latitude, longitude and azimuth by stellar and by solar observations. Base line measurement and precise triangulation. City surveying. Hydrographic surveying.

The Graduate School

Graduate work is offered, under the supervision of the Dean of the Graduate School, by competent members of the various faculties of instruction and research. These constitute the Faculty of the Graduate School.

The general administrative functions of the faculty are delegated to the Dean and Secretary of the School and a Graduate Council consisting of nine members.

Work in accredited research laboratories of the U. S. Department of Agriculture and other local national research agencies under competent supervision is accepted, when previously arranged, as work in residence for part of the requirement. These laboratories are located in easy daily reach of the University. When previously arranged, certain approved courses, satisfactorily completed, at the American University, will also be accepted for part of the residence requirement for higher degrees.

ADMISSION AND REGISTRATION

Admission to the Graduate School is open to all graduates of this and other standard colleges and universities. Before entering upon graduate work all applicants must present evidence that they are qualified by their previous work to pursue the courses desired. Admission to the Graduate School does not necessarily imply admission to candidacy for a degree.

Every student is required to register at the office of the Graduate School at the beginning of each term. This applies to all students doing graduate work in the University even though they are not candidates for degrees. The student is given a registration card for the term on which after consultation with the professor in charge of the major subject, the program of work is entered. This must be approved by the departments involved and by the Dean before registration can be completed.

ADVANCED DEGREES

The advanced degrees conferred are Master of Science and Doctor of Philosophy for work in Agriculture and the Natural Sciences; Master of Arts for work in Liberal Arts, Education and Home Economics, and Doctor of Philosophy in Liberal Arts.

ADMISSION TO CANDIDACY FOR A DEGREE

The applications for admission to candidacy for either the Master's or the Doctor's degree are made on application blanks which are obtained at the office of the Graduate School. These applications are first approved by the professor in charge of the major subject after consultation with the professors in charge of minor subjects, and then passed upon by the Graduate Council.

Each candidate for the Master's degree is required to make application for admission to candidacy at the completion of one third of the residence requirement. Candidates for the Doctor's degree must be admitted to candidacy at a date not later than the beginning of the academic year in which the degree is sought.

MASTER OF SCIENCE AND MASTER OF ARTS

The degree of Master of Science, or Master of Arts, will be conferred upon resident graduates who meet the following requirements:

1. The candidate must be a graduate of a qualified institution and must have the necessary prerequisites for the field of advanced work chosen.
2. He must complete a course of approved graduate study with one major and one or two closely related minor subjects, working on a full-time basis of one year of advanced work. The work may, when approved, be extended on a part-time basis over a longer period.
3. The candidate must complete at least 45 term credit hours including a thesis approved by a committee of the Graduate Faculty.
4. The candidate must pass a satisfactory examination.

DOCTOR OF PHILOSOPHY

1. As prerequisites for admission to candidacy for the Doctor's degree the candidate must be a graduate of a standard college, must have a reading knowledge of French and German, and the necessary basic training in the chosen field for advanced work.

2. Three years of graduate study will usually be required. The first two of these years may be spent in other institutions offering standard graduate work. On a part-time basis the time needed will be correspondingly increased. The degree is not given merely as a certificate of residence and work, but is granted only upon sufficient evidence of high attainments in scholarship and ability to carry on independent research in the special field in which the major work is done.

3. The candidate must select a major and one or two closely related minor subjects, constituting a single field of research.

4. The candidate must present a dissertation within the field of research selected. This must be in the hands of the Dean of the Graduate School in printed or typewritten form at least two weeks before the time at which degrees are granted.

5. The candidate must pass a final oral examination in the major and minor subjects. The examination will be given by a committee appointed by the Dean.

ADVANCED PROFESSIONAL DEGREES IN ENGINEERING

The degrees of Civil Engineer, Electrical Engineer or Mechanical Engineer will be granted only to graduates of the University who have obtained a

bachelor's degree in engineering. The applicant must satisfy the following conditions:

1. He shall have been engaged successfully in acceptable engineering work for three years.
2. His registration for a degree must be approved at least 12 months prior to the date at which the degree is sought. He shall present with his application a complete report of his engineering experience and an outline of his proposed thesis.
3. He shall present a satisfactory thesis on an approved subject.
4. He must be considered eligible by a committee composed of the Dean of the College of Engineering and the heads of the Departments of Civil, Electrical and Mechanical Engineering.

The College of Home Economics

Research into the sciences and the development of industries, art, and professions has so changed the philosophy of our educational system that it is now recognized that any educational system must include training of a technical nature. It must encourage the student's natural desire for work of a productive nature with a vital connection between theory and practice. These views have now been generally accepted and the result is noted in the combination of vocational, technical, and scientific work with the general studies to form a new course of study for young men and women.

The subjects taught in home economics are designed to fit young women to be capable workers and home makers in whatever sphere of life they may enter. The knowledge they gain from these subjects should give them contentment, industry, order, and a womanly feeling of independence and responsibility.

The courses of instruction given are planned to meet the needs of three classes of students: (1) those students who desire a knowledge of the general facts and principles of home economics; (2) those students who wish to make a specialty of home economics for the purpose of teaching the subject in secondary schools and colleges; (3) those who are interested in certain phases of home economics which deal with the work of the dietitian or of institutional manager.

DEGREES

The degree of Bachelor of Science is conferred for the satisfactory completion of four years of prescribed courses, or 204 trimester hours.

DEPARTMENTS

For administrative purposes and for ease of instruction the College of Home Economics is organized into the departments of: Foods and Cookery, Textiles and Clothing, Hygiene and Health, and of Institutional and Home Management.

EQUIPMENT

Besides the usual equipment of class rooms and laboratories, a practice house is maintained where the students will keep house for a period of six weeks during their senior year.

CURRICULUM IN HOME ECONOMICS

All students registered in the College of Home Economics are required to take the same work during the first two years. At the beginning of the third they may elect to continue with General Home Economics, in which case the

following outline of courses has been planned, or they may elect to specialize in a particular department.

The heads of the various departments together with the students wishing to specialize, will outline such courses.

HOME ECONOMICS

	Term:	I	II	III
FRESHMAN YEAR				
Composition and Rhetoric (Eng. 101-103)		3	3	3
Inorgan. Chemistry (Inorg. Chem. 101-103)		4	4	4
Mathematics (106-108)		3	3	*3
Zoology (Zool. 101-102)		3	3	..
Garment Construction (Cloth. 101)		..	..	3
Language		3	3	3
Public Speaking (Pub. Sp. 101-103)		1	1	1
Hygiene (One hour each week, 2 terms) (No credit)		..	..	..
SOPHOMORE YEAR				
	Term:	I	II	III
Organic Chemistry (Org. Chem. 101-103)		3	3	..
Physics (Phys. 104-106)		4	4	4
Art (Art 101)		3	..	..
Textiles (Tex. 101)		..	..	3
Millinery (Cloth. 103-104)		..	2	2
Drafting and Elementary Dress Design (Cloth. 102)		..	5	..
Foods (Foods 101-102)		5	..	4
Electives		3	3	3
JUNIOR YEAR				
	Term:	I	II	III
Bacteriology (Bact. 101-102)		3	3	..
Physiological Chemistry (Bio. Chem. 101)		4	..	..
Nutrition (Foods 103-104)		..	5	5
Costume and Design (Art 102)		3	..	..
Dressmaking (Cloth. 105-106)		..	3	3
Social Psychology (Soc. Psy. 104-105)		3	3	..
Home Architecture and Interior Decoration (Art 104)		..	..	3
Electives		4	3	6
SENIOR YEAR				
	Term:	I	II	III
Preservation and Demonstration (Foods 105)		2	..	..
Experimental Cookery (Foods 106)		..	4	..
Household Management (H. M. 101-102)		3	3	..
Practice House (H. M. 103)		..	..	6
Marketing and Buying (H. M. 104)		2	..	..
Child Care and Welfare		..	..	3
Electives		10	10	8

*Mathematics or Botany may be elected.

SUGGESTED ELECTIVES FOR STUDENTS IN THE COLLEGE OF HOME ECONOMICS

	Term:	I	II	III
Quantitative Analysis.....				
Bacteriology (Bact. 103).....				3
Public Speaking.....	1	1	1	
Public Speaking.....	2	2	2	
Language (French, Spanish, German).....	3	3	3	
Mathematics (Solid Geometry or Plane Analytics).....				3
Political Science.....	2	2	2	
Economics (Econ. 101-102).....	3	3	3	
General and Applied Psychology.....		2	2	
Educational Psychology.....	5			
Rural Sociology.....				3
Educational Guidance.....	1	1	1	
Public Education in the United States (Ed. 101).....	2			
Institutional Management (H. M. 105-106).....	3	3		
Home Nursing and First Aid (H. M. 107).....		3		
Art and Handicraft. (Art 103).....				2
Music (Chorus).....				
Botany (Bot. 101).....				4
Advanced Composition.....				
Short Story.....				
Nineteenth Century Poetry.....				
The Drama.....				
The Novel.....				
History of the Family.....	3			
Education of Women.....		3		
Horticulture.....				
Floriculture.....				
Landscape Gardening.....				
Poultry.....				

DESCRIPTION OF COURSES

FOODS 101. *Elementary Foods*—Five credit hours. Two lectures and three laboratory periods. First term. Prerequisite, Chem. 101-103.

Principles and Processes of Cookery. Production and composition of foods.

FOODS 102. *Advanced Foods*—Four credit hours. Two lectures and two laboratory periods. Third term. Prerequisite, Foods 101.

Fancy cookery and meal service.

FOODS 103-104. *Nutrition*—Five credit hours. Two lectures and three laboratory periods. Second and third terms. Prerequisite, Foods 101-102, Physiological Chem.

Food requirements and metabolism. Diets for the normal and the abnormal person; invalid cookery; feeding of children.

FOODS 105. *Preservation and Demonstration*—Two credit hours. Two laboratory periods. Prerequisite, Foods 101-102.

Canning and preserving; practice in giving public food demonstrations.

FOODS 106. *Experimental Cookery*—Four credit hours. Two lectures and two laboratory periods. Second term. Prerequisite, Foods 101-102.

Experimental work in foods and cookery.

TEXTILES 101. *Textiles*—Three credit hours. One lecture and two laboratory periods. Third term. Prerequisite, lectures in Cloth. 102.

Qualitative and quantitative analysis of fibers and materials; renovation of materials; dyeing and laundering.

CLOTH. 101. *Garment Construction*—Three credit hours. Three laboratory periods. Third term.

Fundamental stitches; darning and patching; practice in hand and machine sewing including practical use of machine attachments.

CLOTH 102. *Drafting and Elementary Dress Design*. Five credit hours. Two lectures and three laboratory periods. Second term. Prerequisite, Cloth. 101.

Use of commercial pattern; drafting, cutting, fitting, and designing of patterns. Construction of cotton dress.

CLOTH. 103-104. *Millinery*—Two credit hours. Two laboratory periods. Second and third terms.

Millinery stitches and simple trimmings; drafting of patterns for hats; making and covering of buckram frames; making hats in velvet, silk, straw, and transparent materials; renovation of materials.

CLOTH. 105-106. *Dressmaking*—Three credit hours. Three laboratory periods. Second and third terms. Prerequisite, Cloth. 102.

Application of design and principles of sewing to the construction of silk and wool, dresses, made over garment and dinner or evening dress.

ART. 101. *Composition and Design*—Three credit hours. Three laboratory periods. First term.

Space division and space relation; color schemes and exercises; original designs in which lines, values, and colors are put together to produce fine harmony; perspective principles.

ART. 102. *Costume Design*—Three credit hours. One lecture and two laboratory periods. First term. Prerequisite Art. 101.

Appropriate dress; application of color; harmony and proportion of parts to costumes designed in ink and water color; history of costume.

ART. 103. *Art and Handicraft*—Two credit hours. Two laboratory periods. Third term.

Applied design in embroidery, lace and stencils.

ART. 104. *Home Architecture and Decoration*—Three credit hours. Two lectures and one laboratory period. Third term. Prerequisite Art. 101.

Styles of architecture; construction and plans of houses; application of color in home decoration; furnishings from a sanitary, economical, and artistic point of view.

- H. M. 101-102. *Household Management*—Three credit hours each term. First and second terms. Senior year.
The operation and maintenance of the household; its sanitation; plumbing; furnishing and equipment.
- H. M. 103. *Home Management*—(Practice House). Six credit hours. Third term. Senior year.
Six weeks experience in keeping house in a household of six students.
- H. M. 104. *Marketing and Buying*—Two credit hours. Two lectures. First term. Senior year.
Selection and purchasing of foods, keeping of inventories and accounts.
- H. M. 105-106. *Institutional Management*—Three credit hours each term. First and second terms. Open to juniors and seniors.
General Institutional organization including dining rooms, dormitories, and laundries.
- H. M. 107. *Home Nursing and First Aid*—Three credit hours. Second term.
Instruction in domestic emergencies and first aid, and in the simple procedures in the home care of the sick.

The School of Law

FACULTY

HENRY D. HARLAN, A. M.; LL. B., Dean
HENRY STOCKBRIDGE, A. M.; LL. B.
JOHN C. ROSE, LL. D.
ALFRED S. NILES, A. M.; LL. B.
RANDOLPH BARTON, Jr., A. B.; LL. B.
EDWIN T. DICKERSON, A. M.; LL. B., Secretary

The calendar for the opening school and for holidays is the same as for the School of Medicine.

While the first faculty of law of the University of Maryland was chosen in 1813, and published in 1817 "A Course of Legal Study addressed to Students and the Profession Generally," which the *North American Review* pronounced to be "by far the most perfect system for the study of law which has ever been offered to the public," and which recommended a course of study so comprehensive as to require for its completion six or seven years, no regular school of instruction in law was opened until 1823. This was suspended in 1836 for lack of proper pecuniary support. In 1869 the Law School was organized, and in 1870 regular instruction therein was again begun. From time to time the course has been made more comprehensive and the staff of instructors increased in number. Its graduates now number more than two thousand, and included among them are a large proportion of the leaders of the Bench and Bar of the State and many who have attained prominence in the profession elsewhere.

The Law School building adjoins the Medical School and part of its equipment is a large library, maintained for the use of the students, which contains carefully selected text-books on the various subjects embraced in the curriculum. No fee is charged for the use of the library. Other libraries also are available for students.

Courses of Instruction

The courses of instruction in the Law School extend through three scholastic years of thirty-two weeks each, with an average of at least ten hours of classroom work each week, and aim to present a general and complete view of the science of law, with reference not only to its growth by judicial exposition, but also to the principles which have been engrafted upon it by positive enactment. The course of study embraces both the theory and the practice of the law, and is designed thoroughly to equip the student for the practice of his profession, when he attains the Bar.

Scientific education is afforded in the principles of the Common Law, Equity, the Statutory Law of the State of Maryland and the Public Law of the United States.

Instruction is given by discussion of assigned cases and by lectures. The system of instruction embraces the study of assigned cases and of approved text-books. It is believed that instruction given through the use of cases alone is unnecessarily laborious, not conducive to uniformity, and likely to produce confusion in the students' mind unless supplemented by the aid of proper text-books. Accordingly a system of instruction, involving the use of both cases and text-books, is followed.

Students desiring to do so, may take elective or special courses. Such students are not candidates for the degree of Bachelor of Laws, but will receive certificates of proficiency in the branches pursued. Courses of instruction will be arranged with special reference to those desiring to obtain a knowledge of certain branches of the law, as an aid in business, or in the management of estates.

The Law School endeavors to uphold a high standard of legal education and it aims to give the student a comprehensive view of the whole field of the Law and particularly a knowledge of the fundamentals of American Law, in order to enable him to pass the examination for the Bar, if he has chosen the legal profession for his life work, or to fit him to care properly for his business interests if he desires legal education merely as the accomplishment of the well-equipped man of business or man of culture.

The lectures are intended to present all the leading principles of the common law applicable to the subject, and the modification of the common law by statute, and to give illustrations of the application of the common and statute law. Special attention is given to the statutes in force in Maryland, and to peculiarities of the law in that State, where there are such; but the reasons for these statutory modifications and local peculiarities are explained so that the student may in a short time acquaint himself with the local peculiarities of the law in any State in which he may practice.

Readings from text-books and adjudicated cases are assigned on the subjects treated of in the lectures.

It will be seen that the full course of study extends over three years and as the Faculty is satisfied that students, who have not made considerable progress in the law before entering the Law School, would do themselves and the School an injury by attempting to graduate in a shorter period, no student will be permitted to receive the degree of LL. B. until after three full years of study at this school, unless admitted to advanced standing.

Requirements for Admission

Applicants for admission to the Law School must be at least eighteen years of age, must present evidence of good moral character and if candidates for the degree of Bachelor of Laws, will be required to give to the study of the law three scholastic years of at least thirty-two weeks each, with an average of at least ten hours' class-room work each week, and to have completed at the time of admission to the School a four years' high school curriculum or such a course

of preparation as would be required for admission to the principal colleges and universities in Maryland; but persons who are unable to comply with these entrance requirements or to spend three years in the study of law may be received as special students, not candidates for the degree, and upon completing the whole or any part of the course, may receive certificates of proficiency in the work completed, according to standards to be fixed.

The Faculty will consider that students are properly qualified for entrance as candidates for the degree of Bachelor of Laws who have received a bachelor's degree from any reputable college or university, or certificate of graduation from any of the Normal or high schools of the State of Maryland, or other reputable institution of a similar character, or have certificates showing that they have passed the entrance examinations to one of the principal colleges or universities in Maryland or a college or university maintaining a standard equal thereto. In the absence of such degree or certificate, a candidate for the degree of LL. B. must file with the secretary, at the time of matriculation, a certificate from the Clerk of the Court of Appeals of Maryland, showing that he has been registered as a law student, as provided by Chapter 426 of the Acts of the General Assembly of Maryland, passed at the Session of 1918.

Advanced Standing

Students may be admitted to advanced standing in the Senior or Intermediate classes upon satisfying the requirements for the work of the preceding year or years. These requirements may be met by presenting a certificate from any law school of accredited standing showing that the student has successfully completed equivalent courses in a law school, covering as least as many hours as are required for such subjects in this school. No credit will be given for study pursued in a law office.

Graduation

The Law School confers the degree of Bachelor of Laws on students who have attended the course of lectures for three years, have attained the required standard examinations and in the Practice Court, and have submitted to the Faculty a satisfactory thesis.

Fees and Expenses

The fees for each term are payable in advance at the commencement of each term, and tickets of admission to the lectures are issued only on payment of fees.

The charges for instruction are as follows:

For term of four months	\$ 50
For session of eight months	100

Special students will be charged according to the courses pursued.

There will be a matriculation fee of ten dollars charged and payable for each student at the time of matriculation and an additional charge of ten dollars to each graduate as a diploma fee.

Special arrangements may be made by members of the Bar, or others, not regular students of the Law School, for attending any particular part or branch of instruction at rates of charges in proportion to the above.

General living expenses of students are the same as outlined for the Medical School.

A special bulletin of The Law School may be obtained by addressing HENRY D. HARLAN, *Dean*, University of Maryland Law School, Baltimore, Md., or The President, University of Maryland, College Park, Md.

The School of Medicine

FACULTY OF PHYSIC

J. M. H. ROWLAND, M. D., Dean

L. E. NEALE, M. D., LL. D.

JOHN C. HEMMETER, M. D., Ph. D., Sc. D., LL. D.

ARTHUR M. SHIPLEY, M. D.

GORDON WILSON, M. D.

GEORGE W. DOBBIN, A. B., M. D.

WILLIAM ROYAL STOKES, M. D., Sc. D.

HARRY FRIEDENWALD, A. B., M. D.

ARCHIBALD C. HARRISON, M. D.

CARY B. GAMBLE, Jr., A. M., M. D.

WILLIAM S. GARDNER, M. D.

STANDISH McCLEARY, M. D.

JULIUS FRIEDENWALD, A. M., M. D.

HIRAM WOODS, A. M., M. D.

ALEXIUS McGLANNAN, A. M., M. D.

FRANK MARTIN, M. D.

The School of Medicine of the University of Maryland is one of the oldest foundations for medical education in America, ranking fifth in point of age among the medical colleges of the United States. In the school building at Lombard and Greene Streets in Baltimore was founded one of the first medical libraries and the first medical college library in America.

There for the first time in America dissecting was made a compulsory part of the curriculum; there instruction in Dentistry was first given (1837), and there were first installed independent chairs for the teaching of diseases of women and children (1867), and of eye and ear diseases (1873).

This School of Medicine was one of the first to provide for adequate clinical instruction by the erection in 1823 of its own hospital, and in this hospital intramural residency for senior students first was established.

Clinical Facilities

The University Hospital, property of the University, is the oldest institution for the care of the sick in Maryland. It was opened in September, 1823, and at that time consisted of four wards, one of which was reserved for eye cases. Additions were made to this building from time to time, but the demands on it became so great that a complete new building was erected. The hospital now is one of the finest owned and controlled by any medical school in the country. It is equipped with all modern conveniences and requirements for care of the sick and for clinical instruction of students of the University.

Besides its own hospital, the Medical School has control of the clinical facilities of the Mercy Hospital, in which were treated last year more than 30,000 persons, the Maryland General Hospital, the Maternity Hospital of the University, the Maryland Lying-In Hospital, Maryland Lying-In Asylum, the West End Maternity.

In connection with the University Hospital an out-door obstetrical clinic is conducted. During the past year 1,798 cases were treated in the lying-in hospitals connected with the University.

Dispensaries and Laboratories

Three dispensaries associated with the University Hospital, Mercy Hospital, and Maryland General Hospital are organized on a uniform plan in order that teaching may be the same in all. Each dispensary has departments of Medicine, Surgery, Children, Eye and Ear, Genito-Urinary, Gynecology, Gastro-Enterology, Neurology, Orthopedics, Protology, Dermatology, Throat and Nose, and Tuberculosis. All students in their junior year work one day of each week in one of these dispensaries; all students in the senior year work one hour each day. About 46,000 cases treated last year give an idea of the value of these dispensaries for clinical teaching.

Laboratories conducted by the University purely for medical purposes are the Anatomical, Chemical, Experimental Physiology, Physiological Chemistry, Histology and Embryology, Pathology and Bacteriology, Clinical Pathology.

Prizes and Scholarships

To stimulate study among the candidates for graduation the Faculty of the School of Medicine offers a gold medal to the candidate who passes the best general examination. Certificates of Honor are awarded to the five candidates standing next highest.

A prize of \$50 is given each year by Mrs. Jose L. Hirsch as a memorial to the late Jose L. Hirsch, formerly Professor of Pathology in this School, to the student in the third year who has done the most satisfactory work in Pathology.

The Dr. Samuel Leon Frank Scholarship was established by Mrs. Bertha Frank as a memorial to the late Dr. Samuel Leon Frank, an alumnus of the University, and entitles the holder to exemption from payment of the tuition fee for the year. It is awarded each year upon nomination of the Faculty "to a medical student who, in the judgment of the said Faculty, is of good

character and in need of pecuniary assistance to continue his medical course."

From a bequest to the School of Medicine by the late Charles M. Hitchcock, M. D., an alumnus of the University, two scholarships have been established which entitle the holders to exemption from payment of tuition fees for the year.

These scholarships are awarded annually by the Faculty of Physic to students who have meritoriously completed the work of at least the first year of the curriculum in medicine, and who present to the Faculty satisfactory evidence of good moral character and of inability to continue the course without pecuniary assistance.

The Randolph Winslow Scholarship, established by Prof. Randolph Winslow, M. D., LL. D., entitles the holder to exemption from the payment of the tuition fee of that year.

It is awarded annually by the Trustees of the Endowment Fund of the University, upon nomination of the Faculty of Physic, to "a needy student of the senior, junior or sophomore class of the Medical School. He must have maintained an average grade of 85 per cent in all his work up to the time of awarding the scholarship. He must be a person of good character and must satisfy the Faculty of Physic that he is worthy of and in need of assistance."

The University Scholarship entitles the holder to exemption from payment of the tuition fee of the year and is awarded annually by the Faculty of Physic to a student of the senior class who presents to the Faculty satisfactory evidence that he is of good moral character and is worthy of and in need of assistance to complete his work.

The St. John's College Scholarship is awarded annually by the Faculty of Physic upon the nomination of the president of St. John's College, of Annapolis, Md.

It entitles the holder to exemption from the payment of the tuition fee of that year.

The Frederica Gehrmann Scholarship was established by bequest of the late Mrs. Frederica Gehrmann and entitles the holder to exemption from payment of tuition fees. This scholarship is awarded to a second-year student who at the end of the year passes the best practical examination in Anatomy, Physiology, Physiological Chemistry and Pharmacology. This examination is competitive.

Requirements for Entrance

Admission to the curriculum in medicine is by a completed Medical Student Certificate issued by the Registrar of the University. This certificate is obtained on the basis of satisfactory credentials, or by examination and credentials, and is essential for admission to any class.

The requirements for the issuance of the Medical Student Certificate are:

(a) The completion of a standard four-year high school course or the equivalent, and in addition,

(b) Two years, sixty semester, or ninety trimester hours, of college credits, including chemistry, biology, physics and English.

Women are admitted to the Medical School of this University.

Fees and Expenses

Following are the fees for students in the Medical School:

Matriculation fee (to be paid each year).....	\$ 5
Tuition fee (each year).....	210

Estimated living expenses for students in Baltimore:

ITEMS	Low	Average	Liberal
Books.....	\$ 27	\$ 48	\$ 75
College incidentals.....	20	20	20
Board, eight months.....	200	322	400
Room rent.....	64	80	100
Clothing and laundry.....	50	80	150
All other expenses.....	25	50	75
*Total.....	\$386	\$600	\$820

*Students take the pre-medical work at College Park, for which there is no charge for tuition and for which other expenses are detailed in the first part of the catalogue.

The special bulletin of the School of Medicine may be obtained by addressing Dean J. M. H. ROWLAND, University of Maryland School of Medicine, Baltimore, Md., or The President, University of Maryland, College Park, Md.

The School of Pharmacy

FACULTY

E. F. KELLY, Phar. D., Dean
 DAVID M. R. CULBRETH, A. M., Phar. G., M. D.
 CHARLES C. PLITT, Phar. G.
 LOUIS J. BURGER, Phar. D., LL. B.
 H. J. MALDEIS, M. D.
 J. CARLTON WOLF, Phar. D.
 ROBERT L. MITCHELL, Phar. D., M. D.
 H. E. WICH, Phar. D.
 GEORGE A. STALL, Phar. D.

The School of Pharmacy was organized in 1841, largely at the instance of members of the Faculty of Medicine, and, for a time, the lectures were delivered at the Medical School. Later it became separated and continued an independent organization until, as the Maryland College of Pharmacy, it finally became an actual part of the University. With but one short intermission, previous to 1865, it has continuously exercised its functions as a teaching school of pharmacy.

Reference to its records shows it to have been among the first, in every instance, to adopt advanced methods, and the standards it has always set and maintained have equalled the highest. It was the first school of pharmacy to employ separate professors for all branches taught; it is the pioneer in establishing laboratories for practical teaching and exercise; it took the initiative in providing adequate buildings for advanced teaching; it was among those which early added plant histology, pharmacognosy, volumetric analysis and alkaloidal assay as distinct branches, and the first to add a separate chair of commercial pharmacy and dispensing, whereby students may be given better and larger experimental knowledge of the actual practice of pharmacy than can be obtained at the average drug store.

Equipment and Degrees

The School of Pharmacy has at its disposal for laboratory instruction and lectures several large and well-equipped halls in the University buildings in Baltimore. From the beginning the chief aim of the School has been to prepare its students for the intelligent practice of pharmacy in the modern drug store.

In doing this, it takes into consideration that there exist three distinct divisions of the profession—preparation, collection and dispensing, which

is the manufacturer, jobber and retailer—and that all need to be scientifically taught. The School has so arranged its curriculum as to give a well-ordered foundation for a pharmaceutical specialist in two years. Upon completion of this two-year curriculum, the student is graduated with the degree of Graduate in Pharmacy, Ph. G. Students who continue their studies for one year after completion of the basic two years' work will receive the degree of Pharmaceutical Chemist, Ph. C.

The School of Pharmacy holds membership in the American Conference of Pharmaceutical Faculties and is registered in the New York Department of Education, and all other states which maintain registration bureaus. The American Conference of Pharmaceutical Faculties is organized to promote pharmaceutical education, and all schools holding membership in it are required to maintain certain standards for entrance and graduation.

Requirements for Admission

The applicant must be not less than seventeen years old and must have completed a four-year standard high school curriculum, or its equivalent. The course, or its equivalent, must have included one year of Latin. Two years of Latin, however, are more desirable.

Admission to the curriculum in pharmacy is by certificate issued by the Registrar of the University. The certificate is issued on the basis of credentials, or by examination, or both.

Applicants, whose credentials do not meet the requirements, must stand an examination in appropriate subjects to make up the required number of units. The fee for such examination is one dollar per subject; five dollars for the entire number of subjects.

Credit will be given for first-year subjects only to students coming from schools of pharmacy holding membership in the American Conference of Pharmaceutical Faculties, provided they present a proper certificate of the satisfactory completion of such courses, and meet the entrance requirements of this School.

Requirements for Graduation

1. The candidate must possess a good moral character, and must be twenty years old.

2. He or she must have attended two sessions at a school of pharmacy, the last in all instances, at this school. Credit will be given only for first-year subjects which have been successfully completed in a school or college holding membership in the American Conference of Pharmaceutical Faculties. The student also must have had four years of high school work.

3. He or she must have passed an examination in all lecture and laboratory instruction.

4. On or before May 1st the candidate must present the graduation fee and a letter from his or her parents or some authorized person certifying to his or her age.

The special bulletin of the School of Pharmacy may be obtained by addressing E. F. KELLY, Dean, University of Maryland School of Pharmacy, Baltimore, Md., or The President, University of Maryland, College Park, Md.

Department of Military Science and Tactics

RESERVE OFFICERS' TRAINING CORPS

The work in this department is based upon the provisions of Special Regulations, No. 44, War Department, 1919.

Authorization

An infantry unit of the Senior Division of the Reserve Officers' Training Corps has been established at the University under the provisions of the Act of Congress of June 3, 1916, as amended by the acts of June 3, 1916, and September 8, 1916.

Object

The primary object of the Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions for the purpose of qualifying selected students of such institutions as reserve officers in the military forces of the United States. It is intended to attain this object during the time that students are pursuing their general or professional studies with the least practical interference with their civil careers, by employing methods designed to fit men, physically, mentally and morally for pursuits of peace as well as pursuits of war. It is believed that such military training will aid greatly in the development of better citizens.

Required to Take Instruction

All male students, if citizens of the United States whose bodily condition indicates that they are physically fit to perform military duty or will be upon arrival at military age, whether pursuing a four-year or a two-year course of study, are required to take for a period of two years, as a prerequisite to graduation, the military training required by the War Department.

Credit Given

Students who have completed satisfactorily the prescribed training with a unit of the S. A. T. C. may be credited with one year of the Basic Course prescribed for the R. O. T. C., and those students who have received military training at any educational institution under the direction of an army officer detailed as professor of military science and tactics may receive credit for instruction equivalent to that given in the senior division R. O. T. C., if over fourteen years of age.

Time Allotted

For first and second year, basic course, three periods a week of not less than one hour each are devoted to this work, of which at least one hour is utilized for theoretical instruction.

For third and fourth years, advanced courses, elective, five periods a week of not less than one hour each are devoted to this work, of which at least three periods are utilized for theoretical instruction.

Physical Training

Physical training forms an important part in military instruction, and it is the policy of the Military Department to encourage and support the physical training given by civilian teachers, thus co-operating in an effort to promote a vigorous manhood.

Physical Examination

All members of the Reserve Officers' Training Corps are required to be examined physically at least once after entering the University.

Uniforms

Members of the Reserve Officers' Training Corps must appear in proper uniforms at all military formations and at other specified times.

Uniforms for the Reserve Officers' Training Corps will be furnished free by the Government. The uniforms are the regulation uniform of the United States Army, with certain distinguishing features. Such uniforms must be kept in good condition by the student. They are the property of the Government and though intended primarily for use in connection with military instruction may be worn at any other time unless the regulations governing their use are violated. The uniform can not be worn in part. Uniforms will be returned to the Military Department at the end of the year, and before, if the student leaves the University.

Commutation

Those students who elect the advanced courses and who have signed the contract with the Government to continue in the Reserve Officers' Training Corps for the two remaining years of the advanced course are entitled to commutation of subsistence from and including the date of contract until they complete the course at the institution.

Summer Camps

An important and excellent feature of the Reserve Officers' Training Corps is the summer camp. In specially selected parts of the country camps are held for a period not exceeding six weeks for students who are members of the Reserve Officers' Training Corps. These camps are under the strict supervision of army officers and are intended primarily to give a thorough and comprehensive practical course of instruction in the different arms of the service.

Parents may feel assured that their sons are carefully watched and safeguarded. Wholesome surroundings and associates, work and healthy recreation are the key-note to contentment. Social life is not neglected and the morale branch exercises strict censorship over all social functions.

The attendance at summer camps is compulsory only for those students who are taking the advanced course.

Commissions

(a) Each year upon completion of the Advanced Course, students qualified for commissions in the Reserve Officers' Corps will be selected by the heads of the institution and the professor of Military Science and Tactics.

(b) The number to be selected from each institution and for each arm of the service will be determined by the War Department.

Credits

Military instruction at this University is on a par with other university work and the requirements of this department are proficiency the same as with other departments.

Basic Course, M. I.

First year (generally given to freshmen and the first-year students in the two-year course). Two credit hours per term.

Second year (generally given to sophomores and the second-year students in the two-year course). Two credit hours per term.

Advanced Course, M. I. (elective)

Third year (generally given to juniors). Three credit hours per term.

Fourth year (generally given to seniors). Three credit hours per term.

DESCRIPTION OF COURSES

M. I. 101. *Basic R. O. T. C.*—Two credit hours each term. Freshman year. The following subjects will be covered:

First Term

Physical Training, Manual of Physical Training (Practical).
Infantry Drill Regulations (Practical and Theoretical).
School of Squad and Platoon.
Military Courtesy and Customs of the Service.

Second Term

Physical Training, Manual of Physical Training (Practical).
Infantry Drill Regulations (Practical and Theoretical).
School of Squad, Platoon and Company.
Small Arms Firing (Practical and Theoretical), to include Gallery Practice.

Lectures, Personal Hygiene.

Interior Guard Duty (Practical and Theoretical).

Infantry Weapons and Equipment (Practical and Theoretical), to include the Infantry Pack, Rifle and Bayonet.

Third Term

Physical Training, Manual of Physical Training (Practical).

Infantry Drill Regulations (Practical and Theoretical), to include School of Company and Ceremonies.

Small Problems in Minor Tactics (Practical).

M. I. 102. *Basic R. O. T. C.*—Two credit hours each term. Sophomore year.

The following subjects will be taught:

First Term

Physical Training (Practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical and Theoretical), School of Squad and Platoon.

Minor Tactics (Practical and Theoretical).

Military Map Reading and Surveying (Practical and Theoretical).

Second Term

Physical Training (practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical and Theoretical), School of Squad, Platoon and Company.

Military Map Reading and Topography (Practical and Theoretical).

Infantry Weapons (Practical and Theoretical). To include the Rifle, Automatic Rifle and Machine Gun.

Third Term

Physical Training (Practical), Setting-up Exercises, Mass Games and College Athletics.

Infantry Drill Regulations (Practical and Theoretical), to include School of Squad, Platoon, Company and Battalion, and the Ceremonies.

Minor Tactics (Practical and Theoretical).

M. I. 103. *Advanced R. O. T. C.*

Three credit hours each term. Junior year.

The following subjects will be covered:

First Term

Physical Training (Practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical), all Juniors act as Lieutenants in instructing Sophomores and Freshmen in School of Squad and Platoon.

Field Engineering (Practical and Theoretical), construction and use of Field Intrenchments.

Second Term

Physical Training (Practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical), all Juniors act as Lieutenants in instructing Sophomores and Freshmen in School of Squad, Platoon and Company.

Field Engineering (Practical and Theoretical), organizations of Working Parties and Tasks; selection of location for trenches; concealment of camouflage.

Infantry Weapons (Practical and Theoretical), the Pistol, Hand and Rifle Grenades, Trench Mortars and One (1) Pounder Gun.

Third Term

Physical Training (Practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical), all Juniors act as Lieutenants in instructing Sophomores and Freshmen in School of Battalion and Ceremonies.

Minor Tactics (Theoretical and Practical).

M. I. 104. *Advanced R. O. T. C.* Three credit hours each term.

SENIORS

The following subjects will be covered:

First Term

Physical Training (Practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical), as Captains instructing underclassmen in School of Squad and Platoon.

Minor Tactics (Practical and Theoretical).

Musketry (Practical and Theoretical).

Second Term

Physical Training (Practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical), as Captains instructing Underclassmen in School of Platoon and Company.

Military History and Policy of the United States (Practical and Theoretical).

Administration—Lectures on Army Paper Work, with Problems for Practical Work.

Military Law (Practical and Theoretical).

Minor Tactics (Practical and Theoretical).

Third Term

Physical Training (Practical), Setting-up Exercises, Mass Games, College Athletics.

Infantry Drill Regulations (Practical), as Captains instructing Underclassmen in School of Battalion and Ceremonies.

Minor Tactics (Practical and Theoretical).

Department of Physical Education and Recreation

The Department of Physical Education and Recreation has been organized to control all physical training, recreation, intramural, and intercollegiate athletics. All work is closely co-ordinated and the ideal is to see that every man in the institution gets opportunities to take part in competitive sports. The plan under which the department is to operate may be summed up as follows:

1. A series of exercises arranged for every student in the institution and compulsory for all, the exercises to be based on mass exercises common in Germany and the Scandinavian countries. Neither the German nor Scandinavian system is to be used in its entirety, but a combination of the heavy gymnastic drills of the former with the lighter squad drills of the latter. All students will be given physical examination and placed in various classes according to their individual physical needs. Students will receive different kinds of work and be encouraged to take part in those games which provide the exercise of which they are most in need.

2. A general system of intramural athletics is carried out under a regular schedule with teams representing different units of the University. All students take part in one or more of these branches of sport and the University encourages enough sports to give each an opportunity. It is the aim of each class to have its own wrestling team, basket-ball team, baseball team, volley-ball team, track team, and so on for just as many teams as there are students to fill the positions. The games between these teams are carried out with regularity of schedule and supervision. Besides these, there are general competitions such as cross-country runs and interclass track meets in which representatives of all classes may compete at the same time. A regular playground is in process of construction on which will be available tennis courts, volley-ball courts, tether ball poles, stakes for pitching quoits, etc.

3. All physical training of the students, including mass exercises, intramural sports, intercollegiate competitions, and military training, are a part of the general educational system of the University.

For the present practically all general training, such as comes under the head of gymnastics and squad exercises, is conducted under direction of the Military Department.

Degrees and Honors

Degrees Conferred June 16, 1920

Honorary

ASBURY FRANCIS LEVER, Doctor of Laws
EDWIN THOMAS MEREDITH, Doctor of Agriculture
CURTIS CRISS McDONNELL, Doctor of Science

In Course

Bachelor of Science

EDWARD BUCKLEY ADY	Sharon, Maryland
RIDGELY WILSON AXT	Catonsville, Maryland
JAMES HALL BARTON	Centreville, Maryland
THEODORE LEMUEL BISSELL	Westover, Maryland
BRADFORD LEWIN BURNSIDE	Hyattsville, Maryland
HENRY MORRISON CARROLL	Ashland, Maryland
PETER WOOD CHICHESTER	Aquasco, Maryland
GEORGE WATSON CLENDANIEL	Kennedyville, Maryland
JOHN CONYNGTON	Berwyn, Maryland
BAUSSON DAVISON	Riverdale, Maryland
EDWARD ELLIOTT DAWSON	Trappe, Maryland
FRANKLIN DRONENBURG DAY	Burdette, Maryland
THOMAS VICTOR DOWNIN	Williamsport, Maryland
JOHN RALPH DRAWBAUGH	Washington, District of Columbia
GEARY EPPLEY	Washington, District of Columbia
ARTHUR DORION ETIENNE	Berwyn, Maryland
WALTER EZEKIEL	Landover, Maryland
JOSEPH ALEXANDER GRAY, JR.	Brownsville, Maryland
HOSMER PEARSON HARTSHORN	Kensington, Maryland
WILLIAM PAUL HICKS	Baltimore, Maryland
GEORGE BORYER HOCKMAN	Hagerstown, Maryland
ELIZABETH GAMBRILL HOOK	College Park, Maryland
ALLEN STANLEY JONES	Washington, District of Columbia
JOHN EARL KEEFAUVER	Berwyn, Maryland
JOHN STEWART KNODE	Baltimore, Maryland
ROBERT TROXELL KNODE	Baltimore, Maryland
JAMES HOBART LANGRALL	Baltimore, Maryland
HARRY MISLON McDONALD	Barton, Maryland
EDWARD BRIGHAM MCKINLEY	Washington, District of Columbia
HANSON TRAVERS PERKINS	Springfield, Maryland
ALGEO NEWELL PRATT	Newark, New Jersey
ERNEST CHARLES E. RUPPERT	Chevy Chase, District of Columbia
MAURICE TALBOTT RIGGS	Rockville, Maryland

WILLIAM JOSEPH SANDO
MILTON DULANY SEWELL
WARDNEY COURTLAND SNARR
WILBUR FREDERICK STERLING
SAMPSON SHAW TERNENT

Washington, District of Columbia
Hyattsville, Maryland
Washington, District of Columbia
Crisfield, Maryland
Lonaconing, Maryland

Bachelor of Arts

CHARLES SLAUGHTER ELLIOTT	Westover, Maryland
B. ANDREW MATZEN	Berwyn, Maryland

Master of Science

CHUNGEN CONSTANT CHEN	Shanghai, China
CLARENCE BOBO NICKELS	Artesia, Mississippi

Doctor of Philosophy

CHARLES E. SANDO	Washington, District of Columbia
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CERTIFICATES IN TWO-YEAR COURSES ISSUED JUNE 16, 1920

Agriculture

HATCHER H. ANKERS	Sterling, Virginia
LAWRENCE EUGENE CAUFFMAN	Merchantville, New Jersey
GEORGE BLAKE CHAPMAN	Woodstock, Virginia
ARTHUR PAYNE DOWS	Riverside, Maryland
FRANK LANGHORNE EVANS	Charleston, West Virginia
EDWIN FELTMAN FROELICH	Somerset County, Maryland
WILLIAM PRESSTMAN FUSSELBAUGH	Baltimore, Maryland
ALLYN H. MYERS	Winchester, Virginia
CLARENCE BOICE NOURSE	Alexandria, Virginia
CHARLES D. RIDOUT	Annapolis, Maryland

Mechanic Arts

CLARENCE BLAKE CRIPPEN	Hurlock, Maryland
JAMES R. GRIEST	Washington, District of Columbia

TESTIMONIALS OF MERIT AWARDED JUNE 16, 1920

For distinguished achievement in the promotion of the agricultural interests of Maryland

GEORGE MORRISON	Baltimore, Maryland
JAMES B. McLAUGHLIN	Montgomery County, Maryland
JAMES T. ANTHONY	Kent County, Maryland

ELECTED MEMBERS OF THE PHI KAPPA PHI, THE HONORARY FRATERNITY

EDWARD BUCKLEY ADY
JAMES HALL BARTON
THEODORE LEMUEL BISSELL
FRANKLIN DRONENBURG DAY

THOMAS VICTOR DOWNIN
ROBERT TROXELL KNODE
ALGEO NEWELL PRATT
WILLIAM JOSEPH SANDO

MEDALS AND PRIZES AWARDED JUNE 16, 1920

For Excellence in Debate. Medal offered by the Alumni Association
OTTO REINMUTH, Frederick, Maryland

The Goddard Medal, for Excellence in Scholarship and Moral Character Medal offered by Mrs. Annie K. Goddard James
PETER WOOD CHICHESTER, Aquasco, Maryland

The Oratorical Association of Maryland Colleges offers each year gold medals for first and second places in an Oratorical Contest
Medal for second place awarded to
ROBERT MALCOLM WATKINS, Mt. Airy, Maryland

Citizenship Medal offered by Mr. H. C. Byrd, Class of 1908
GEARY EPPLEY, Washington, District of Columbia

For Excellence in Debate, "President's Cup,"
Offered by Dr. H. J. Patterson
THE NEW MERCER LITERARY SOCIETY

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WILBUR FREDERICK STERLING
JAMES HALL BARTON
THEODORE LEMUEL BISSELL
ARTHUR DORION ETIENNE
EDWARD ELLIOTT DAWSON
ROBERT WILHELM HELLER
JOHN EARL KEEFAUVER
BRADFORD LEWIN BURNSIDE
CHARLES PHILIP WILHELM
STERLING ELY ABRAMS
JOSEPH ALEXANDER GRAY, JR.
EDWARD BUCKLEY ADY

Major
Captain
Captain
Captain
First Lieutenant
First Lieutenant
First Lieutenant
First Lieutenant
Second Lieutenant
Second Lieutenant
Second Lieutenant
Second Lieutenant
Second Lieutenant

BATTALION ORGANIZATION FOR 1920-21

Battalion Staff

C. W. COLE, Major, R. O. T. C., Commanding
F. SLANKER, Honorary Major R. O. T. C., Commanding
E. F. RUSSELL, 1st Lieutenant, R. O. T. C. Battalion Ajudant

COMPANY OFFICERS AND NON-COMMISSIONED OFFICERS

COMPANY A

ROBERT V. HAIG

HOWARD A. SHANK
PAUL S. FRANK

ROBERT N. YOUNG
GEORGE A. SMITH
E. B. FILBERT

COMPANY B

Captains

CHARLES P. WILHELM

First Lieutenants

EDWARD F. RUSSELL
MORTIMER B. MOREHOUSE

Second Lieutenants

JOHN A. MORAN
JAMES A. RIDOUT
ASA C. MILLER

Non-Commissioned Staff Officers

J. P. SCHAEFER, Battalion Sergeant Major
G. E. GIFFORD, Battalion Supply Sergeant
T. H. FITZGERALD, First Sergeant, Band

First Sergeants

J. E. HARLOW

C. E. WHITE

Sergeants

H. I. MOSS
C. P. HARLEY
R. LIGHTER
H. W. TURNER
J. W. WISNER

W. D. BELT
M. C. ALBRITAIN
T. R. BETTS
T. K. MILLER
G. A. WICK
C. M. BREWER

Corporals

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E. F. STANFIELD
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J. B. HIMMELHEBER
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R. STRAKA
L. T. BROWN

COMPANY C

CHARLES E. DARNALL

OTTO P. REINMUTH
AUGUSTUS W. HINES

GERALD G. REMSBERG
JAMES M. HUFFINGTON
M. M. CLARKE

A. G. WALLIS

E. M. RICHARDSON
E. EMBREY
T. K. ALDERTON
M. GUREVICH
A. A. MCBRIDE

C. S. COOK
N. W. POWELL
W. J. RICHARDS
L. F. SCHOTT
W. M. JONES

Register of Students

COLLEGE OF AGRICULTURE

SENIOR CLASS

Bland, Harriet W., Sparks
~~Helder, Thomas D., Vienna~~
 Holter, Edward F., Middletown
 Jester, William C., Jr., Wilmington, Del.
 Johnson, Clarence E., Laurel
 Macdonald, Alexander, Washington, D. C.

Perry, DeWitt P., Clear Spring
 Twilley, Otis S., Hurlock
 Umbarger, Henry L., Bel Air
 Walker, William Paul, Mt. Airy
 Wilhelm, Charles P., Baltimore

JUNIOR CLASS

~~Avery, Helena D., Washington, D. C.~~
~~England, Charles W., Dismal~~
 Ezekiel, Bertha B., Berwyn
 Fisher, Henry S., Hillsboro
~~Graham, Walter P., Houtsville~~
 Gurevich, Henry J., Washington, D. C.
 Gurevich, Morris J., Washington, D. C.
 Huffington, Jesse M., Eden (Somerset)
 Kirby, William W., Washington, D. C.

Matthews, Irving W., Sparks
 Moran, John A., Frederick
 Newell, Sterling R., Washington, D. C.
 Painter, John H., Washington, D. C.
 Reynolds, Clayton, Port Deposit
 Smith, George F., Big Spring
 Snyder, James H., Lewistown
 Stabler, Lawrence J., Washington, D. C.
 Sutton, Robert L., Ballston, Va.

SOPHOMORE CLASS

Connor, George E., Hillsborough, N. H.
 Dunning, Ernest C., Baltimore
 Duvall, William M., Baltimore
 Frank, Paul S., Falls Church, Va.
 Fuhrman, Ruth, Washington, D. C.
 Gadd, Albert S., Centreville
 Harley, Clayton P., Royersford, Pa.
 Mickey, William F., Delmar
 Lesquire, John M., Harrisburg, Pa.
 McKeever, Galen W., Kensington
 Marquis, Theodore E., Washington, D. C.

Melroy, Malcolm B., Washington, N. J.
 Miller, Thomas K., Havre de Grace
 Moss, Howard I., Govans
 Mumford, John W., Jr., Newark
 Parks, Fred H., Timonium
 Quaintance, Howard W., Washington, D. C.
 Rosenberg, Charles I., Hyattsville
 Skilling, Francis C., Baltimore
 Stanton, Guy S., Grantsville
 Troy, Virgil S., Centreville
 Ward, Joshua B., Jarrettsville

FRESHMAN CLASS

Anderson, Wilton A., Bristol, Tenn.
 Bacon, Rankin S., Glencoe
 Benton, Gordon, Stevensville
 Breisch, Ralph J., Catawissa, Pa.
 Bryan, John D., Ruxton
 Burdette, Sarah B., Martinsburg, W. Va.
 Dickey, David D., Baltimore
 Embrey, Everett C., Washington, D. C.
 Endslo, David K., Mt. Joy, Pa.
 Geist, Charles H., Upperco
 Geistwhite, Charles H., Harrisburg, Pa.
 Hale, Roger F., Freeland
 Harlan, Paul B., Churchville
 Kaufman, Edward L., Baltimore
 King, Willard A., Washington, D. C.
 Kolb, Ghaile E., Mt. Airy
 McQuade, Thomas J., Washington, D. C.
 Marquis, Grace, L., Washington, D. C.
 Mecartney, John L., Vacluse, Va.

Nettleton, Malvern, Washington, D. C.
~~Newcomer, William P., Denton~~
 Penn, William B., Clinton
 Pilchard, Jennings B., Pocomoke City
 Powell, William D., Woodsboro
 Prough, Marion P., Sykesville
 Rothgeb, Russell G., Luray, Va.
 Shea, Catherine M., Washington, D. C.
 Sleasman, Arthur R., Smithsburg
~~Steele, Eugene R., Hagerstown~~
 Stuart, Leander S., Pepperell, Mass.
 Walker, Lewis J., Clarksburg, W. Va.
 Wanner, Marie E., Baltimore
 Weber, Wilhelm H., Oakland
 Williams, George W., Jr., Baltimore
 Woollen, Carlton H., Hurlock
 Yates, Harry O., Abington, Pa.
 Zenter, Frederick A., Jr., Ellicott City

Roche, B. H.

Miller, Bert H.
Prince, C. E.
Trivianovitch, V.
Richardson, E.
Rowe, T. P.

FEDERAL BOARD

Alvin, Stonewall J., Kunstown, Va.
 Banfield, Frank M., Washington, D. C.
 Batson, Lawrence D., Washington, D. C.
 Bethke, Joseph R., Rossville
 Bishop, John, Washington, D. C.
 Bragg, John H., Washington, D. C.
 Brannon, Thomas C., Washington, D. C.
 Cannon, Amos P., Salisbury
 Capaul, Jacob, Washington, D. C.
 Cherry, Joseph C., Brownsville, Pa.
 Church, Carey F., Washington, D. C.
 Cooper, Charles H., Hampstead
 Cornwell, William J., Baltimore
 Coyle, John W., East Syracuse, N. Y.
 Davis, John J., Garrett Park
 Dickinson, Herbert M., Jr., Hyattsville
 Elfront, Robert L., Baltimore
 Fleck, Walter D., Denver, Colo.
 Forsyth, Lewis V., Baltimore
 Graves, Harvey C., Brookland, D. C.
 Grimm, Paul H., Trego
 Hancock, Hugh, Huddleston, Va.
 Harnsberger, John H., Warrenton, Va.
 Harper, Floyd H., Federalsburg
 Hawthorne, Noah B., Round Hill, Va.
 Hill, Neely, Baltimore
 Hohman, Charles W., West, W. Va.
 Holland, Arthur H., Pemberton, Va.

Hottel, John T., Bealeton, Va.
 Howell, Clarence L., Chase City, Va.
 Hutchinson, Harry B., Hyattsville
 James, Howard V., Williamsburg, Va.
 Kirby, Wilton G., Havre d'Grace
 Lincoln, Leonard B., Takoma Park
 Lint, David L., Washington, D. C.
 Lowman, Clarence A., Funkstown
 Ludlum, Samuel L., Berwyn
 Manthey, Felix, College Park
 Moler, Robert C., Mount Rainier
 Parlett, William A., Baltimore
 Pullen, Jesse P., Martinsville, Va.
 Pulliam, James L., Washington, D. C.
 Richards, Felix William, Washington, D. C.
 Ross, Charles E., Oriole
 Russell, George O., Norfolk, Va.
 Schenkelberg, August C., Ellicott City
 Shaffer, Harry H., Upperco
 Shields, Thomas, Towson
 Snyder, Jesse E., Washington, D. C.
 Sprinkle, Paul C., Manassas, Va.
 Squires, Walter E., Mount Rainier
 Staley, Charles C., Richmond, Va.
 Sullivan, Clifford E., Woodensburg
 Tait, George S., Fairfax, Va.
 Tarbell, William E., Baltimore
 Wood, Ellsworth, Washington, D. C.

UNCLASSIFIED

Barrow, John M., Forest Hill
 Betts, Thomas R., Oberlin, Ohio
~~Brown, Edward L., Jr., Chevy Chase~~
~~Chamber, Glen, Clarksville~~
 Crain, Robert, Jr., Washington, D. C.
~~Russelbaugh, William P., Baltimore~~
 Goldstein, Milton, Brooklyn, N. Y.
 Kirk, Grover C., Warfordsburg, Pa.
 James, William B., Hancock
 McCeney, Robert S., Silver Springs

Miller, Asa C., Washington, D. C.
Pannebaker, James G., Baltimore
Pollock, George P., Boyds
Pope, Jacob C., Corry, Pa.
Raez, Jose L., Huancayo, Peru
Taylor, P., Fredericksburg, Va.
Witch, Vaso, Zagreb, Serbia
Zivance, Carlos D., Lima, Peru

TWO-YEAR AGRICULTURE

Second Year

Alderton, Thomas E., Takoma Park
 Belt, James D., Island Creek
 Crone, George A., Jessup
 Davis, Malcolm, Washington, D. C.
 Joh, Raymond, Carroll
 Mahan, Joseph F., Forest Hill

Muncaster, John E., Rockville
~~Richardson, Edward M., Washington, D. C.~~
 Turner, Howard W., White Hall
 Umbarger, Gardner T., Aberdeen
 Umbarger, Marvin D., Bel Air

TWO-YEAR AGRICULTURE

First Class

Beall, Clarkson J., Morristown, N. J.
 Buchheister, Gustav A., Upper Marlboro
 Ducker, Caryl, Englewood, N. J.
 Gray, Marshall C., Ironsides
 Harrison, John L., Berlin
 Harrison, Orlando, Jr., Berlin

Jones, Arthur, Davidsonville
 Link, John M., Mt. Rainier
 Mattingly, James M., Leonardtown
 Parran, Julius P., Lusby's
 Smith, Edward J., Riverdale

Wooten, J. F.

COLLEGE OF ENGINEERING

SENIOR CLASS

Dingman, James E., Berwyn
Eiseman, John H., Washington, D. C.
Gardner, William T., Clear Spring
Hamke, Julius C., College Park
Heller, Robert W., Annapolis
Pedicord, Herbert R., Dickerson
Rausch, Robert M., Washington, D. C.
Reading, Joseph G., Rockville

Sener, Herman H., Chewsville
Smith, John W., Norfolk, Va.
Snyder, Leo W., Washington, D. C.
Starr, James H., Washington, D. C.
Stonestreet, Nicholas V., Rock Point
Sullivan, Jeremiah H., Newburyport, Mass.
Thomas, Richard B., Washington, D. C.

JUNIOR CLASS

Best, Alfred S., Harwood
Bosley, Harry L., Washington, D. C.
~~Bosley, Lester W., Washington, D. C.~~
Broach, Keator T., Ridgewood, N. J.
Busck, Paul G., Washington, D. C.
Butts, John A., Loysburg, Pa.
Darnall, Charles E., Hyattsville
Darnier, Edwin F., Hagerstown
Ewald, Francis G., Mt. Savage

Hines, Augustus W., Washington, D. C.
Moore, Charles E., Baltimore
Neighbours, Herbert E., Lewistown
Norwood, Frederick J., Washington, D. C.
Pusey, Merwyn L., Cape Charles, Va.
~~Rensberg, Gerald G., Braddock Heights~~
Russell, Edgar F., Washington, D. C.
Sasser, Clarence D., Northkeys
~~Shank, Hughes A., Smithsburg~~

SOPHOMORE CLASS

Albrittain, Mason C., La Plata
Bailey, Caleb T., Bladensburg
Baldwin, M. J., Washington, D. C.
Belt, William B., Hyattsville
Bennett, Frank A., Hagerstown
Boteler, Howard M., Laurel
Braungard, Paul J., Hagerstown
Compher, Carlton M., Doubs
Cook, Charles S., Frederick
Donaldson, De Witt C., Laurel
Elliott, Joseph W., Westover
Fitzgerald, Gilbert B., Princess Anne
Harlow, James H., Havre de Grace
Hightman, Floyd H., Burkittsville
Himmelheber, Joseph B., Annapolis

Hodgins, Herbert W., Union City, Pa.
Melvin, Willis G., Havre de Grace
Powell, Robert W., Princess Anne
Reed, Raymond B., College Park
Richard, William J., Goldsboro
Schaefer, John P., Riverdale
Stranahan, Robert J., Union City, Pa.
Toadvine, Harry L., White Haven
Van Sant, Bayard R., Greensboro
Richard, William J., Goldsboro
Toadvine, Harry L., White Haven
Van Sant, Bayard R., Greensboro
Wallis, Albert G., Frederick
Wick, George A., Washington, D. C.
Zepp, Willard E., Clarksville

FRESHMAN CLASS

Bartlett, Wirt D., Centerville
~~Barton, I. Frank M., Centerville~~
Chestnute Frank T., Hyattsville
Cohee, Lee A., Easton
Conway, James P., Cumberland
Didier, Frederick B., Baltimore
Foard, James H., Aberdeen
Gardner, Cleggitt E., Clearspring
Glass, Gerald L., Hyattsville
Hall, Charles R., Ridgewood, N. J.
Henderson, Brice W., Lisbon
Hess, J. Millard, Elkton
Hill, William B., Hyattsville
Howard, M. Hamilton, Brookeville
Johnson, George W., Elkton
Kingdon, John, Rockville
Matham, Ector B., Washington, D. C.

Melton, Edward R., Washington, D. C.
Miller, Harold, Frederick
Orr, Stanley C., Hyattsville
Rader, William H., Williamsport, Pa.
Rizer, Richard T., Mt. Savage
Robertson, Russel A., Washington, N. J.
Schumann, Andrew E., Princess Anne
Seney, Joshua M., Chestertown
Shofnos, William, Washington, D. C.
Sipes, Ralph M., Towson
~~Stewart, John D., Street~~
Unseld, Ragan, Hagerstown
~~Walter, Henry M., Washington, D. C.~~
Wenger, Charles W., Washington, D. C.
White, John I., Washington, D. C.
Wisner, J. Ward, Baltimore
Young, Walter H., Washington, D. C.

176 Schott, L. F.
Steele, E. R.
Terry, H. M.

FEDERAL BOARD

Claggett, John H., Jr., Roslyn
Hoppe, John H., Baltimore
Lewis, Longworth B., Montross, Va.

Ryan, William T., Washington, D. C.
Simmons, Frank M., Chicago, Ill.
Sleeth, James R., Washington, D. C.

UNCLASSIFIED

~~Swings, Elliot P., North Beach~~
~~Schott, Loren F., Washington, D. C.~~
~~Stall, Charles C., Brooklyn~~
~~Swings, Elliot P., North Beach~~
~~Schott, Loren F., Washington, D. C.~~
~~Stall, Charles C., Brooklyn~~

TWO-YEAR MECHANIC ARTS

Second Year

Stanfield, Edward F., Roslyn

First Year

Baker, R. Russell R., Rockville
Bean, Alton, Rockville
Compton, Stephen, Westwood

Fleming, Richard L., Hagerstown
Pyles, Kenneth B., Washington, D. C.
~~Ridout, James A., Annapolis~~

COLLEGE OF ARTS AND SCIENCES

SENIOR CLASS

Abrams, Sterling E., Jersey City, N. J.
Cole, C. Walter, Towson
Diggs, Austin C., Baltimore
Donaldson, Edmund C., Laurel
Frere, Francis J., Tompkinsville
Groton, Thomas C., Pocomoke

Morgan, Edwin K., Washington, D. C.
~~Schuch, John D., Washington, D. C.~~
Slanker, Frederick, Washington, D. C.
Starkey, Edgar B., Sudlersville
Thawley, Leonard H., Laurel

JUNIOR CLASS

Beachley, Ralph H., Middletown
Clark, Morrison M., Silver Springs
Darkis, Frederick R., Frederick
Elder, James W., Cumberland
Gilbert, Herbert D., Frederick
Hodgins, Robert J., Union City, Pa.
Keene, Victor C., Philadelphia, Pa.
Kemp, Allen D., Frederick
Levin, Hyman E., Baltimore
Morehouse, Mortimer B., Washington, D. C.

Northam, Alfred J., Pocomoke City
Paganucci, Romeo J., Waterville, Me.
Parsley, George M., Brookeville
Polk, Lawrence W., Pocomoke
Reinmuth, Otto P. H., Frederick
Schramm, George N., Cumberland
Scott, Joseph G., Princess Anne
Yoshikawa, Masanori, Hyuga, Japan
Young, Robert N., Washington, D. C.

SOPHOMORE CLASS

Ady, Elizabeth G., Sharon
Barnes, Benjamin L., Princess Anne
Besley, Arthur K., Baltimore
Blandford, Mildred, College Park
Block, Albert, Laurel
Brewer, Brooke, College Park
Brewer, Charles M., Washington, D. C.
Brown, Leo T., Washington, D. C.
Buchheister, George G., Leeland
Burroughs, James E., La Plata
Cadle, William, Hamsville
Chase, Ralph H., Washington, D. C.
Chappell, Kenneth B., Kensington
Claggett, John F., Marlboro

Celen, Alfred B., Chestertown
Downin, Luran P., Hagerstown
Filbert, Edwin B., Baltimore
Finney, Argyle N., Washington, D. C.
Fitzgerald, Thomas H., Princess Anne
Gifford, George E., Rising Sun
Graham, James F., Brookeville
Graves, Ernest A., Washington, D. C.
Heath, Marguerite F., Baltimore
Jones, William M., Chestertown
Lesquire, William J., Jr., Harrisburg, Pa.
Marker, Russell E., Hagerstown
Matthews, Harris S., La Plata
Moore, John F., Washington, D. C.

Mathias, L. S.

Nisbet, Andrew N., Baltimore
 Poplack, Samuel L., New Haven, Conn.
 Porter, Robert G., Hyattsville
 Posey, M. Winfield, La Plata
 Reppert, Ruth I., Takoma Park, D. C.
 Shambach, Frank M., Baltimore
 Spence, Virginia I., College Park
 Spence, Charlotte C., College Park

Straka, Robert, Homestead, Pa.
 Sturgis, William C., Snow Hill
 Swan, Gerald A., Washington, D. C.
 Thompson, Ruth A., Brookland, D. C.
 Towbes, Louis H., Washington, D. C.
 Watkins, Robert M., Mt. Airy
 White, Charles E., College Park
 Wynkoop, James C., Washington, D. C.

FRESHMAN CLASS

Baker, Norman W., Reistertown
 Besley, Florence E., Baltimore
 Brewer, Virginia W., College Park
 Clay, Catherine L., College Park
 Clemson, Earle P., Baltimore
 Conklin, Roscoe L., Baltimore
 Darcy, George D., College Park
 Demio, Alexander W., New Kensington
 Froehlich, Juanita, Crisfield
 Gambrill, Charles M., Pittsburg, Pa.
 Gemmill, William F., Baltimore
 Groves, John, Washington, D. C.
 Harp, Jerauld B., Smithsburg
 Heidelberg, Henry R., Catonsville
 Hennessey, Thomas J., Lynn, Mass.
 Herlihy, Timothy M., Newburyport, Mass.
 Holmes, Thomas J., Takoma Park
 House, Kingsley A., College Park

Johnson, Vernon C., Ashboro, N. C.
 Jones, Edward A., Sudlersville
 Knotts, James T., Jr., Sudlersville
 Leshner, Dean S., Williamsport
 Lininger, Harry C., Westernport
 Merrill, Francis R., Pocomoke City
 Newland, Paul F., Bristol, Tenn.
 Newman, Richard D., Smithsburg
 Reisinger, John C., Washington, D. C.
 Kissler, Raymond L., Washington, D. C.
 Shank, James O. C., Smithsburg
 Terwilliger, William G., Highland, N. Y.
 Tobias, Herbert R., Hancock
 Townsend, Miles D., Reistertown
 Walsh, Humphrey M., Washington, D. C.
 Wardwell, Aubrey S., Washington, D. C.
 Warrenfeltz, Mary S., Hagerstown

UNCLASSIFIED

Clark, Clarence E., Frederick
 Crooks, William S., Frederick
 Goodyear, Louis B., College Park
 Grandfield, Robert F., Dorchester, Mass.
 Gundry, Richard, Catonsville
 House, Hugh O., College Park
 House, Lilian M., College Park
 Rankford, J. Miles, Pocomoke
 Lopatin, Samuel, Jr., New Haven, Conn.
 McGouldrick, Paul F., Portland, Me.
 MacDougall, Alan F., Merchantville, N. J.

Monk, Henry L., Salisbury, N. C.
 Moss, William W., Baltimore
 Mulligan, Alleine W., New York City
 Norris, Helen G., Baltimore
 Plassnig, Edwin, Baltimore
 Semeniouk, Mary E., Anacostia, D. C.
 Semler, H. Edwin, Hagerstown
 Silberman, Isador D., Delray, Va.
 Wang, Voong Ung, Shanghai, China
 Weber, Ella K., Fairbank
 Wood, Sidney B., Ashboro, N. C.

FEDERAL BOARD

Shepherd, Matson W., Berwyn

SCHOOL OF MEDICINE

POST-GRADUATES AND SPECIAL STUDENTS

Chapman, Arthur W., South Glen Falls, N. Y.
 Feinstein, Elliott, Baltimore
 Hunt, Rose B., Baltimore
 Lang, Robert Gibson, Parkersburg, W. Va.

Mayoral, Joaquin, Havana, Cuba
 Pritchard, Ruth S., Nassau, Bahama Islands
 Wiener, Joseph, New York, N. Y.

FOURTH-YEAR CLASS

Aubrey, John F., Baltimore
 Badagliacca, Francis L., Paterson
 Barnes, Bruce, Hawthorne, N. J.

Benson, Carl F., Baltimore
 Bernardo, John R., Wilmington, Del.
 Bonfiglio, Vincent, Baltimore

Bose, Jogesh C., B.S., Baltimore
 Broadrup, Earl E., Cumberland
 Castro, Andres G., San Jose, Costa Rica
 Costa, Oscar G., San Juan, Porto Rico
 Culver, Samuel H., Delmar, Del.
 Dorf, Herman J., Hunter, N. Y.
 Fisher, C. F., Parkersburg, W. Va.
 Fisher, Daniel S., Baltimore
 Foley, Charles J., Havre de Grace
 Franklin, Joseph P., B.A., Birmingham, Ala.
 Freedom, Leon, Baltimore
 Gardner, Willets W., A.B., Centre Moriches, N. Y.
 Golley, Kyle W., Baltimore
 Grabill, J. Stanley, Baltimore
 Guyton, John W., Baltimore
 Hawks, Cyrus E., Lamsburg, Va.
 Heitsch, Hubert M., Pontiac, Mich.
 Hobgood, Legan H., New Bedford, Mass.
 Hoheb, Albert S., Santruce, Porto Rico
 Holofcener, Julius I., Baltimore
 Jaffe, Albert, Baltimore
 John, Baxter S., Shawesville, Va.
 Joska, Vincent V., Baltimore
 Joyner, George R., Suffolk, Va.
 Keegan, Daniel F., B.A., Bridgeport, Conn.
 Kemp, Richard J., Granite
 Lass, Louis, Brooklyn, N. Y.
 Luban, Benjamin, Brooklyn, N. Y.
 McCoy, Arley Von, A.B., Mannington, W. Va.
 Martinez, Ezequiel, San Juan, Port Rico
 Matthews, Stanley W., Rocky Mount, N. C.
 Monninger, Arthur C., Scranton, Pa.
 O'Rourke, Thomas Rutter, Sparrows Point
 Pacienzo, Frank A., Baltimore

Paulson, Moses, Baltimore
 Peters, Edgar A. P., B.S., Louisa, Ky.
 Pillsbury, Harold C., Baltimore
 Plyler, Ralph J., A.B., Cleveland, N. C.
 Pokorny, Joseph, Baltimore
 Quinones, Norberto A., San German, Porto Rico
 Reynolds, Francis A., Boston, Mass.
 Ries, Ferdinand A., Baltimore
 Romilly, Harold A., Rapidan, Va.
 Ryon, James H., Bowie
 Sabin, Fred C., East Syracuse, N. Y.
 Savage, Philip J., New London, Conn.
 Schilling, Jesmond W., Erie, Pa.
 Seay, Thomas W., Spotsylvania, Va.
 Sherman, Solomon, Baltimore
 Shircliff, Elliott W., Cumberland
 Shubert, Felix S., Ranshaw, Pa.
 Skvarla, John A., Passaic, N. J.
 Sowers, Jacob L., B.S., Linwood, N. C.
 Stone, Saul G., Cleveland, Ohio
 Szczerbicki, John V., Baltimore
 Tilghman, Stanley J., Parsonsburg
 Timko, Louis M., Northampton, Pa.
 Wangler, Herman Ernest, Syracuse, N. Y.
 Ward, Edwin E., Crisfield
 Weinkauf, William F., Ann Arbor, Mich.
 Wells, George E., Baltimore
 Wiest, Paul F., Rippon, W. Va.
 Wilkerson, James H., Baltimore
 Williams, Mortimer H., Parksley, Va.
 Wilson, W. Wellford, Phar.D., Baltimore
 Wolfe, James C., Bloomfield, N. J.
 Yaeger, Leslie A., B.S., Baltimore

THIRD-YEAR CLASS

Bailey, Harry, B.A., New Haven, Conn.
 Bolewicki, Peter E., A.B., Baltimore
 Buchness, Anthony V., A.B., Baltimore
 Champe, Ira P., Jr., Charleston, W. Va.
 Doshey, Louis J., B.A., Brooklyn, N. Y.
 Fleischmann, Berthold, B.S., New York, N. Y.
 Freidus, Elias, New York, N. Y.
 Fritz, Julius D., Brooklyn, N. Y.
 Fulton, William J., Baltimore
 Ginsberg, William, B.A., New York, N. Y.
 Goldman, Bernard A., Pittsburgh, Pa.
 Gollick, William A., B.S., Jersey City, N. J.
 Gordon, Herbert, New York, N. Y.
 Greenbaum, Leonard H., Baltimore
 Groff, Morris, Brooklyn, N. Y.
 Hatfield, Daniel S., Charleston, W. Va.
 Halley, George C., Twin Falls, Idaho
 Harman, Robert D., B.S., Riverton, W. Va.
 Hollister, William, B.S., New Berne, N. C.
 Horowitz, Herman J., B.S., New York, N. Y.
 Huff, William, B.A., Roanoke, Va.
 Ingram, David N., Baltimore

Keefe, George G., A.B., Waterbury, Conn.
 Kerdasha, George, Wood Cliff-on-Hudson, N. J.
 Krager, John J., B.A., Baltimore
 Kunkowski, Andrew, Baltimore
 Lang, Milton C., Baltimore
 Lawson, Lawrence W., B.A., Logan, W. Va.
 Linke, Julian P., Plainfield, N. J.
 McCoy, C. Glen, A.B., Mannington, W. Va.
 Mercier, Albin S., A.B., Lisbon
 Middlemiss, William R., B.S., Salt Lake city, Utah
 Morgan, Edward N., Batavia, N. Y.
 O'Connor, John A., A.B., Baltimore
 Noll, Louis, B.S., Hartford, Conn.
 Payne, John E., B. S., Clarksburg, W. Va.
 Peters, H. Raymond, B.A., Baltimore
 Pittman, Henry L., Fayetteville, N. C.
 Pullen, Guy F., Greenwich, Conn.
 Rhodes, Bricey M., Woodville, Fla.
 Rudisill, John D., A.B., Lincolnton, N. C.
 Salzberg, Abraham, New York, N. Y.
 Saporita, Archibald R., Harrison, N. J.

Sckerak, Arthur J. F., Bridgeport, Conn.
 Scotellaro, Nicholas J., New York, N. Y.
 Shannon, George E., Baltimore
 Shapin, Sydney, Brooklyn, N. Y.
 Shapiro, Louis M., B.A., New Haven, Conn.
 Sternberg, Harry, Brooklyn, N. Y.

SECOND-YEAR CLASS

Beck, Nathaniel M., A.B., Baltimore
 Berkson, Morris I., Pittsburgh, Pa.
 Cortese, Anthony E., Paterson, N. J.
 Dart, Frederick B., Niantic, Conn.
 Desane, Joseph, New York, N. Y.
 Edmonds, John M., Horton, Mich.
 Evatt, Clay W., Greenville, S. C.
 Feraca, Salvatore J., New York, N. Y.
 Gillum, Donald A., Baltimore
 Glass, Benjamin E., Carteret, N. J.
 Goldberg, Ben, Spring Valley, N. Y.
 Gutowski, Joseph M., Perth Amboy, N. J.
 Harp, J. Elmer, Hagerstown
 Hagerman, Paul, Cameron, W. Va.
 Hirsch, Philip, New York, N. Y.
 Hundley, John T. T., Jr., A.B., Lynchburg, Va.
 Keith, Marion Y., Caledonia, N. C.
 Kenney, Joseph R., A.B., Dravosburg, Pa.
 Knipp, George S., Baltimore
 Kraut, Arthur M., Jersey City, N. J.
 Kyper, Frederick, Clearfield, Pa.
 Long, Ira C., A.B., Moorehead City, N. C.

FIRST-YEAR CLASS

Allen, Moore L., Salt Lake City, Utah
 Anderson, Albert L., Annapolis
 Antonius, Nicholas, Orange, N. J.
 Austerlitz, Joh., Phar.D., Baltimore
 Barnes, D. Keith, Kaysville, Utah
 Bartlett, Charles W., Jr., Florida
 Battistini, Pedro A., Aduadilla, Porto Rico
 Bentz, Felix, New Britain, Conn.
 Bershatsky, William, Brooklyn, N. Y.
 Bleier, Louis, New York, N. Y.
 Boyd, Kenneth B., Baltimore
 Briglia, Nicholas N., Philadelphia, Pa.
 Carter, Carl J., Catawba, W. Va.
 Davila, Jose E., Juana Diaz, Porto Rico
 Edelman, Edward I., Long Island, N. Y.
 Fisher, Harry R., New York, N. Y.
 Flax, Ira I., Newark, N. J.
 Friedman, Bernard, New York, N. Y.
 Friedman, Irving, Newark, N. J.
 Gattens, Wilber E., Cumberland
 Gottlieb, Bernard N., Brooklyn, N. Y.
 Granoff, Joseph F., Brooklyn, N. Y.
 Greifinger, Marcus H., Newark, N. J.
 Grimm, Wilson O., Buckhannon, W. Va.
 Grossblatt, Philip, Newark, N. J.
 Hamilton, Dewey D., Mannington, W. Va.
 Howell, Clewell, B.S., Vineland, N. C.

Stovin, Joseph S., Ph.B., New Haven, Conn.
 Stout, Philip D., B.A., Johnson City, Tenn.
 Sweet, Samuel W., B.S., Utica, N. Y.
 Trynin, Hyman, B.A., Brooklyn, N. Y.
 Warfield, John O., Jr., A.B., Philadelphia, Pa.
 Wilson, Thomas N., A.B., Hebron, Md.

Love, William S., Jr., A.B., Baltimore
 McLean, Herbert M., B.A., Jersey City, N. J.
 McVay, Edward A., A.B., Pawtucket, R. I.
 Maurillo, Dominick F., New York, N. Y.
 Newcomer, David R., B.S., Halfway
 Parson, Willard S., Wilkesburg, Pa.
 Peterman, James E., Cherry Tree, Pa.
 Pontery, Herbert, Weehawken, N. J.
 Povalski, Alexander W., Jersey City, N. J.
 Rio, Juan Del, Porto Rico.
 Ruche, Harry C., Pennsylvania
 Rothfuss, Paul A., B.S., Montoursville, Pa.
 Schorr, Richard, New York, N. Y.
 Shealy, Walter H., B.A., Seesville, S. C.
 Smith, Charles F., Uniontown, Pa.
 Steincrohn, Peter J., Hartford, Conn.
 Sussman, Abram A., D.D.S., Baltimore
 Touhey, Thomas J., Wilmington, Del.
 Ware, Harry H., Jr., Dunnsville, Va.
 Wasserstrom, Sidney, Brooklyn, N. Y.
 Weinert, Henry V., Jersey City, N. J.
 White, Robert Stanislaus, Camden, W. Va.

Neustaedter, Theodore, New York, N. Y.
 Nocera, Domingo, Mayaguez, Porto Rico
 Norment, John E., A.B., Baltimore
 Oyler, Ralph Ziegler, B.S., Gettysburg, Pa.
 Pachtman, Isadore, Braddock, Pa.
 Perry, Arch. H., Louisburg, N. C.
 Pitkowsky, Louis, New York, N. Y.
 Rodriguez, Virgilio O., Juana Diaz, Porto Rico
 Sarubin, Benjamin, Baltimore
 Scagnetti, Albert, Valley Cottage, N. Y.
 Scheindlinger, Morris I., New York, N. Y.
 Schlenger, Leo B., Paterson, N. J.
 Schultz, Louis A., New York, N. Y.

THE LAW SCHOOL

SENIOR CLASS

Andres, Andrew J., Buffalo, N. Y.
 Ayuso, Antonio, Tabucoa, Porto Rico
 Ashman, George, Baltimore
 Barrett, Thomas E., Baltimore
 Batty, Joseph F., Jr., Baltimore
 Beuchelt, Walter E., Baltimore
 Blades, George C., Baltimore
 Bowes, F. Mackall, Baltimore
 Businsky, Louis C., Baltimore
 Campbell, Percy J., Baltimore
 Charlton, John L., Baltimore
 Cohan, David M., Danville, Va.
 Cohen, Maurice L., Baltimore
 Collier, Harry, Baltimore
 Corcoran, John N., Ontario, Canada
 Cronin, Thomas D., Baltimore
 Davis, John F., Baltimore
 Drummond, Harry A., Pungateage, Va.
 Fessenmeir, Leo, Glen Arm
 Fowler, William J., Baltimore
 Galloway, John S., Towson
 Gans, Hilary W., Govans
 Garland, Cassius B., Baltimore
 Golder, George L., Jr., Catonsville
 Gontrum, Charles H., Baltimore
 Grossman, Julius T., Baltimore
 Hammond, Norris C., Baltimore
 Higinbotham, Paul M., Baltimore
 Hirt, Frank J., Baltimore
 Hooper, James J., Cambridge
 Hudson, James F., Towson
 Jenkins, George G., Baltimore
 Jett, Reese L., Baltimore
 Jones, George S., Baltimore
 Joyner, Roderick S., Farmville, N. C.
 King, Norris C., Baltimore
 Koontz, Edward L., Baltimore

Scimeca, Antonio A., New York, N. Y.
 Seliger, Robert V., New York, N. Y.
 Shapiro, Ralph N., Newark, N. J.
 Tabershaw, Arnold L., New York, N. Y.
 Taub, Samuel, New York, N. Y.
 Theuerkauf, Frank J., Erie, Pa.
 Urbanski, Adrian X., Perth Amboy, N. J.
 Weiner, Hymen L., Philadelphia, Pa.
 Weinstock, Alex. A., Brooklyn, N. Y.
 Whaley, Thomas B., Berlin
 Woodyard, Edwin S., Parkersburg, W. Va.
 Zaslow, John, Woodridge, N. Y.

Langley, William H., Jr., Newport, R. I.
 Laukaitis, William F., Baltimore
 Lehman, Irving L., Baltimore
 Levy, Israel, Baltimore
 Lindsay, James J., Towson
 McEvoy, Charles P., Baltimore
 Marshall, Roland S., Baltimore
 Meyer, John A., Baltimore
 Millar, James H., Baltimore
 Milio, J. T., Baltimore
 Morton, Alfred B., Baltimore
 Mullen, George M., Govans
 Nachlas, Nathaniel S., Baltimore
 O'Brien, Arthur S., Baltimore
 Portmess, Robert R., Baltimore
 Rice, T. Warren, Baltimore
 Ring, Howard J., Baltimore
 Roe, Cornelius, Baltimore
 Rogers, William C., Baltimore
 Rollins, Howard M., Jr., Baltimore
 Rosendale, Ferdinand J., Baltimore
 Sagner, Louis, Baltimore
 Salerno, Peter C., Briston, Conn.
 Scheiner, John, Baltimore
 Seiland, John O., Baltimore
 Siegrist, Louis, Jr., Baltimore
 Siff, Allen E., Baltimore
 Skane, Thomas J., Baltimore
 Stanley, Ernest E., Baltimore
 Stein, David, Baltimore
 Stern, Bernard E., Baltimore
 Walker, Uthman, Baltimore
 Waters, Theodore C., Baltimore
 Welzant, George P., Baltimore
 Whaley, John Staton, Snow Hill
 Wheeler, Francis E., Baltimore
 Wiers, Francis B., Baltimore
 Wolfson, Benjamin L., Baltimore

THE LAW SCHOOL

INTERMEDIATE CLASS

Aaron, Samuel J., Baltimore
 Addison, Walter W., Baltimore
 Ahrling, George C., Baltimore
 Alvey, Frederick S., Frederick
 Arrington, Charles B., Baltimore
 Arnold, Frank, Baltimore
 Barrett, William L. K., Baltimore
 Baugh, Ernest Van C., Baltimore
 Beall, Paul U., Baltimore
 Beck, Louis B., Baltimore
 Benson, Franklin M., Baltimore
 Bennett, Alton Y., Frederick
 Berman, Paul, Baltimore
 Bernard, Richard C., Baltimore
 Blankner, Andrew L., Baltimore
 Bollinger, James W., Baltimore
 Bossard, Stanley R., Thurmont
 Bovey, William H., Hagerstown
 Bradley, Hugh F., Jr., Jarrettsville
 Brown, Meyer, Baltimore
 Bryan, Cecil A., Baltimore
 Burgee, Amon, Jr., Frederick
 Burtscher, Charles N., Baltimore
 Burler, Thomas B., Towson
 Campbell, Stephen P., Jr., Baltimore
 Carey, Clarence W., Sayre, Pa.
 Carmel, Percy, Mt. Winans
 Ciotti, Hector J., Baltimore
 Cohan, Allen E., Baltimore
 Council, Eugene C., Baltimore
 Cummings, George R., Baltimore
 Dail, Harold W., Cambridge
 Deen, Melville L., Preston
 Dinsmore, Robert D., Baltimore
 Domenico, Joseph F., Baltimore
 Dooley, John M., Cardiff
 Druery, Oliver K., Jr., Baltimore
 Ermer, Charles F., Baltimore
 Essinger, Paul R., Baltimore
 Etheridge, James F., Baltimore
 Evans, Joseph W., Baltimore
 Fell, John C., Annapolis
 Flentje, George F., Jr., Baltimore
 Freed, Otto, Baltimore
 Freeny, William E., Salisbury
 Friedman, David, Baltimore
 Fyle, George H., Perryman
 Fyle, Samuel L., Perryman
 Gay, James E., Baltimore
 Geiselman, Austin H., Jr., Baltimore
 Goertz, Harry E., Baltimore
 Goldstein, Irving C., Baltimore
 Gorey, Matthew A., Baltimore
 Goodman, Alexander, Baltimore
 Guenette, William E., Springfield, Mass.
 Guercio, Samuel V., Baltimore

Guthrie, Joseph A., Baltimore
 Hall, R. Irving, Baltimore
 Hargest, Edward E., Baltimore
 Hartle, Calvert K., Hagerstown
 Hartman, Stanley E., Baltimore
 Harris, Charles D., Baltimore
 Hecker, Samuel, Baltimore
 Hewitt, Linwood T., Baltimore
 Higgins, Douglas S., Baltimore
 Hilton, George E., Baltimore
 Hirschhorn, Solomon, Baltimore
 Hisky, John G., Catonsville
 Huss, Albert B., Baltimore
 Jones, C. Braddock, Baltimore
 Jones, Edgar A., Baltimore
 Johnson, Edmond H., Annapolis
 Joseph, Saul L., Baltimore
 Kafferman, Gershon, Baltimore
 Kaminski, Marion J., Baltimore
 Kavanaugh, Emmett P., Baltimore
 Kenly, Lacy R., Baltimore
 Kindred, Robert E., Sioux Falls, S. D.
 Kirk, Harris E., Jr., Baltimore
 Klipper, Charles W., Baltimore
 Krebs, John W., Baltimore
 Krieger, Joseph L., Baltimore
 Kruger, S. Harvey, Baltimore
 Kuenne, Herbert F., Baltimore
 Latane, Leios M., Richmond, Va.
 Lebowitz, Harry, Brooklyn, N. Y.
 Lemmert, John V., Baltimore
 Leonhardt, Carroll, Baltimore
 Lepper, Howard J., Baltimore
 Levin, Albert, Baltimore
 Levinson, Saul, Ellicott City
 Lowe, Denton S., Govans
 Lowe, William L., Govans
 Lynch, Charles A., Gardenville
 McCourt, Joseph G., Baltimore
 MacLeod, Elmer J., Baltimore
 Mainen, Robert, Baltimore
 Maas, Frederick L., Baltimore County
 Mallon, Joseph P., Baltimore
 Marine, Edgar D., Baltimore
 Marsh, Paul E., Frederick
 Merriken, William L., Roland Park
 Meissel, Howard A., Baltimore
 Michaelson, Benjamin, Galloways
 Miegel, Charles H., Baltimore
 Miles, Joshua W., Jr., Princess Anne
 Miller, George B., Baltimore
 Minder, John H., Baltimore
 Molz, Joseph T., Baltimore
 Morstein, David H., Baltimore
 Mulford, Harry S., Baltimore
 Naiman, Julius, Baltimore

Nake, George R., Baltimore
 Nelson, William B., Bel Air
 Nowakowski, John J., Baltimore
 Paca, John P., Jr., Baltimore
 Palmisano, Augustine, Jr., Baltimore
 Patti, Joseph J., Baltimore
 Parr, Joseph T., Baltimore
 Pausch, Richard, Baltimore
 Pirie, Carroll W., Baltimore
 Plassnig, Edwin, Baltimore
 Powell, Thomas R., Baltimore
 Price, William H., Snow Hill
 Pyle, James H., Baltimore
 Reutter, Eberhard E., Baltimore
 Reed, John S., Baltimore
 Roche, James M., Baltimore
 Rogers, Thomas H., Buckeystown
 Rollins, Edward D. E., Baltimore
 Rosenblatt, J. Harold, Baltimore
 Rossiter, Goldsborough G., Baltimore
 Ruth, Louis C., Baltimore
 Sanderson, Gustav F., Baltimore
 Savard, Ernest E., Briston, Conn.
 Schad, Harry J., Baltimore
 Scher, Charles H., Baltimore
 Schilling, William James, Baltimore
 Schmelz, Frederick, Jr., Baltimore
 Schmuckler, Benjamin, Baltimore
 Schneider, Leo A., Baltimore
 Schonfield, Eugene, Baltimore
 Schutz, Henry, Baltimore
 Schulze, Paul K., Baltimore
 Seidman, Jesse I., Baltimore
 Sellors, John, Baltimore
 Shechter, Louis E., Baltimore
 Shlessinger, Jacob, Baltimore
 Sherbow, Joseph, Baltimore
 Siems, Valentine B., Baltimore
 Silberstein, Herschel V., Baltimore
 Simmons, Marshall E., Baltimore

Sklar, Benjamin E., Baltimore
 Skinner, William H., Baltimore
 Skrentny, Joseph, Baltimore
 Sline, Percy, Baltimore
 Small, Leon, Relay
 Smith, William E., Baltimore
 Snyder, Edwin A., Baltimore
 Snyder, Morris S., Baltimore
 Socolow, Harry, Baltimore
 Stanley, John S., Baltimore
 Stern, Abraham, Baltimore
 Sutton, Richard S., Jr., Baltimore
 Talbott, William S., Baltimore
 Taylor, Walter L., Jr., Catonsville
 Thompson, Charles H., Baltimore
 Thomsen, Royal C., Baltimore
 Tisdale, James W., Annapolis
 Toomin, Philip R., Baltimore
 Trageser, Charles A., Baltimore
 Truitt, Vaughan R., Showell
 Tubman, Samuel A., Baltimore
 Twigg, Lester A., Baltimore
 Urner, Francis H., Frederick
 Vankin, Maurice B., Baltimore
 Victor, Julius A., Baltimore
 Vogeler, John G., Baltimore
 Walker, Owen, Baltimore
 Walter, Eeneest W., Baltimore
 Weaver, Edwin C., Baltimore
 Weinberg, La Fayette, Baltimore
 Weiner, Paul N., Baltimore
 Weiskettel, Francis A., Baltimore
 Wenzel, Philip H., Baltimore
 Wilson, James J., Jersey City, N. J.
 Willinger, Thomas S., Baltimore
 Williams, Charles C., Baltimore
 Williams, Richard W., Halethorpe
 Wilson, Lewis M., Cumberland
 Winebrenner, David C., 3d, Frederick

THE LAW SCHOOL

JUNIOR CLASS

Albert, Milton A., Baltimore
 Allen, Howell W., Baltimore
 Austin, Eugene, Baltimore
 Azrael, Judson L., Baltimore
 Bach, Joseph A., Ellicott City
 Backman, John T., Baltimore
 Barrett, Franklin P., Baltimore
 Barren, Irving, Baltimore
 Barron, Robert, Baltimore
 Batty, Howard A., Baltimore
 Bau, Mingchiln J., Yu Yiao, China
 Baum, Albert S., Jr., Baltimore
 Beach, Robert W., Jr., Baltimore
 Bellows, Donald P., Glyndon
 Berman, Benjamin L., Baltimore

Berman, Sara F., Baltimore
 Berenholtz, Charles S., Baltimore
 Birely, John H., Baltimore
 Blackburn, Earle W., Baltimore
 Blakistone, Richard P., Baltimore
 Blankner, Earle J., Baltimore
 Blaustein, J. Selman, Baltimore
 Block, Nathan, Baltimore
 Blum, Albert H., Baltimore
 Bordley, Clayto, W., Baltimore
 Bowers, Austin J., Baltimore
 Bregel, Howard C., Baltimore
 Brewer, James P., Baltimore
 Bruce, David K., Baltimore
 Burgess, Edwin E., Jr., Ellicott City

Burgess, Lionel, Ellicott City
 Caplan, David H., Baltimore
 Caplan, Meyer, Baltimore
 Caples, Walter R., Baltimore
 Clement, Rupert R., Baltimore
 Clift, Saville, Baltimore
 Cockey, James L., Baltimore
 Cohen, Albert J., Baltimore
 Cohen, Herman, Baltimore
 Cohen, Jacob, Baltimore
 Cohen, Joseph, Baltimore
 Cole, B. Olive, Baltimore
 Cotton, Myron S., Baltimore
 Coughlan, Robert E., Jr., Baltimore
 Covalerchek, Julius, Baltimore
 Cover, James P., Easton
 Cronin, Harold G., Aberdeen
 Crowther, George R., Jr., Baltimore
 Crowther, Lester H., Baltimore
 Cullom, Cecil I., Baltimore
 Cozajkowski, Walter M., Baltimore
 Darley, John W., Baltimore
 Darnall, William M., Baltimore
 Dies, Eli S., Russia
 Dimarco, Anne E., Baltimore
 Dorsey, Philips H., Annapolis
 Drummond, William H., Baltimore
 Due, Paul F., Baltimore
 Ellis, Margaret M., Baltimore
 Feikin, Bernard, Baltimore
 Fine, Harry, Baltimore
 Fisher, Elsa B., Fort McHenry
 Foard, Francis M., Baltimore
 Ford, Lewis McD., Baltimore
 Fox, George G., Baltimore
 France, Robert, Baltimore
 Fulton, Charles C., Baltimore
 Gaskins, Damon S., Baltimore
 Gaver, John M., Frederick City
 Gillum, Wilbur Alex., Baltimore
 Gisriel, Edwin L., Baltimore
 Glick, Henry, Baltimore
 Goldstein, Raphael S., Baltimore
 Gontrum, Thomas McC., Raspeburg
 Gorsuch, Walter C., Oxford
 Graham, Homer G., Baltimore
 Graham, Leland J., Baltimore
 Greenburg, Mordecai D., Baltimore
 Griesacker, Joseph B., Baltimore
 Gross, Christian W., Jr., Baltimore
 Groves, Annie L., Baltimore
 Hahn, Theodore J., Baltimore
 Hammerman, Israel H., Baltimore
 Harrington, Thomas M., Baltimore
 Hecker, David, Baltimore
 Hedeman, John R., Baltimore
 Hetzer, Samuel R., Williamsport
 Hobbs, Walter S., Baltimore
 Hochman, Joel J., Baltimore
 Hofferbert, George, Baltimore

Hopkins, Hastings B., Baltimore
 Horine, Dawson, Baltimore
 Horney, William R., Centreville
 Horsey, Joshua R., Baltimore
 Horwitz, Hyman, Baltimore
 Hook, Ernest S., Baltimore
 Hudson, Howard E., Baltimore
 Hunter, Lois M., Baltimore
 Hutchinson, Milo H., Baltimore
 Hutzell, Frank L., Boonsboro
 Hyman, Morris D., Baltimore
 Isaacson, Julius, Russia
 Jett, Robert S., Baltimore
 Jewell, Clay, Baltimore
 Johnson, Russell H., Baltimore
 Jones, Harry L., Baltimore
 Kairys, Harry, Baltimore
 Katzner, Fred, Baltimore
 Kelley, James P., Towson
 Kelley, Stanley, Elkridge, Ala.
 Kerpelman, Morris, Baltimore
 Keyser, George T., Baltimore
 Kidd, James K., Baltimore
 King, Albert R., Baltimore
 Kirchner, George W., Baltimore
 Klein, Arthur J., New York, N. Y.
 Kornmann, Henry E., Baltimore
 Krimski, Joseph M., Baltimore
 Kurland, Fannie, Baltimore
 La Porte, Francis A., Baltimore
 Lazarus, Henry, Baltimore
 Lears, Walter J., Baltimore
 Leavitt, Maurice, Portsmouth, Va.
 Lee, O'Donnell, Stevenson
 Legg, John H., Centreville
 Lesinsky, Samuel, Baltimore
 Levitas, Benjamin I., Baltimore
 Levy, Edward S., Baltimore
 Lutzky, Ida C., Baltimore
 McAllister, James A., Cambridge
 McCahan, Elmer B., Jr., Baltimore
 McCullough, David N., Baltimore
 McGalenck, Wilbur F., Weverton
 McInnes, Eugene, Seattle, Wash.
 McKenney, Henry H., Baltimore
 McLaughlin, Charles R., Baltimore
 Masson, George F., Baltimore
 Maurer, Jenkins G., Relay
 Mazar, Meyer, Baltimore
 Meyerhoff, Jacob, Baltimore
 Miller, Stephen J., Baltimore
 Mitchell, Thomas F., Thompsonville, Conn.
 Morgan, Tilghman V., Baltimore
 Mopsikor, Robert E., Portsmouth, Va.
 Mooney, Lawrence R., Baltimore
 Moore, George L., Baltimore
 Mullan, W. G. Read, Baltimore
 Needle, Sidney, Washington, D. C.
 Neel, John M., Baltimore
 Newcomer, George S., Baltimore

Nickerson, Palmer R., Baltimore
 Nowack, Wencel, Baltimore
 Obrecht, Holliday H., Baltimore
 O'Rourke, Andrew G., Roslyn
 O'Toole, Bernard F., Thurmont
 Owinski, Joseph J., Baltimore
 Paltiloff, Sol, Baltimore
 Palees, Mitchell, Baltimore
 Parke, Guy A., Baltimore
 Pausch, George, Baltimore
 Perry, John W., Salisbury
 Phillips, Seymour, Baltimore
 Pierson, Leon, Baltimore
 Piper, William B., Baltimore
 Plank, Cyril A., Baltimore
 Porter, W. Edgar, Baltimore
 Pressman, Maurice J., Baltimore
 Pressman, Marie W., Baltimore
 Pruess, Hans L., Baltimore
 Pugh, Walter J., Baltimore
 Pumpian, Herman, Baltimore
 Rabuck, Le Roy T., Baltimore
 Riddle, John F., Baltimore
 Riggs, Maurice T., Rockville
 Robinson, Morton M., Baltimore
 Rody, Benjamin F., Baltimore
 Rogan, Joseph H. A., Baltimore
 Roil, John R., Baltimore
 Rome, Hyman P., Baltimore
 Rose, Joseph M., Baltimore
 Rosenberg, Sarah R., Baltimore
 Russell, Frank J., Baltimore
 Scharf, Frederick, Baltimore
 Schlegel, Edwin M., Baltimore
 Schlein, Morris, Baltimore
 Schonfield, Simon, Baltimore
 Scott, Edward H., Baltimore
 Seamans, William R., Baltimore

Sweltzer, Eugene P., Baltimore
 Shapiro, Solomon, Baltimore
 Shea, James D., Baltimore
 Sherry, Helen, Baltimore
 Siff, Herman E., Baltimore
 Silberman, Samuel L., Baltimore
 Simons, Jacob I., Baltimore
 Sinn, Walter E., Frederick
 Sloan, David W., Jr., Cumberland
 Smith, Milton R., Glen Arm
 Sokol, Max, Baltimore
 Spedden, Alex W., Jr., Baltimore
 Stein, Charles F., Jr., Baltimore
 Strauss, Raymond F., Baltimore
 Stritehoff, Nelson H., Jr., Baltimore
 Swartz, Harry B., Baltimore
 Swartz, Walter H., Baltimore
 Tannelbaum, Harry, Baltimore
 Tobias, Benjamin, Baltimore
 Tome, Richard E., Baltimore
 Truitt, Jeremiah F., Salisbury
 Twupack, Frank W., Baltimore
 Walker, Alfred F., Baltimore
 Ward, John T., Jarrettsville
 Weintraub, Benjamin, Baltimore
 Wellner, Gabriel D., Baltimore
 Wessels, Asa H., Catonsville
 White, Richard M., Philadelphia, Pa.
 Wiegard, Paul J., Annapolis
 Wilson, Frankie D., Birmingham, Ala.
 Winter, Harry, Baltimore
 Wolfson, Benjamin L., Baltimore
 Woods, Florence M., Holyoke, Mass.
 Ucher, Clement V., Jr., Baltimore
 Yaffe, Harry, Baltimore
 York, Charles A., Baltimore
 Zimmerman, Benjamin, Baltimore

SCHOOL OF DENTISTRY

SENIOR CLASS

Anderson, Walter A., Baltimore
 Berg, Edward C., Newark, N. J.
 Brown, Harvey D., Millville, N. J.
 Byer, Nathan, Trenton, N. J.
 Cantor, Louis M., Bridgeport, Conn.
 Casey, Daniel J., Wilmington, Del.
 Clemson, W. Buckey, Baltimore
 Corso, Arthur, Danville, Pa.
 Cowley, W. Hyde, Salt Lake City, Utah
 Davis, Frank W., Waynesville, N. C.
 Davis, Leonard I., Barnesville
 Doyle, Daniel E., North Attleboro, Mass.
 Garcia, Francisco G., Rio Piedras, Porto Rico
 Hammond, Bennett, Washington, D. C.
 Henchey, Bert L., Bennington, Vt.
 Highstein, Charles, Baltimore

Hussey, Fay Lee, Berkley, Va.
 Lubore, Jacob, Washington, D. C.
 McLaughlin, Victor B., Mason-Dixon, Pa.
 Malkinson, Jack W., Montreal, Canada
 Martin, William P., Burlington, N. C.
 Moore, William S., New York, N. Y.
 Notes, Louis, Washington, D. C.
 Ricalo, Acacio, Santiago, Cuba
 Roland, Daniel L., Reading, Pa.
 Slifkin, Louis B., Bloomfield, N. J.
 Stern, Carl J., Walton, N. Y.
 Teague, Charles H., Madison, N. C.
 Thalaker, Neil E., Petersburg, W. Va.
 Themper, Joseph, New Haven, Conn.
 Van Winkle, Harold, Passaic, N. J.
 Voelker, Joseph W., Washington, D. C.

JUNIOR CLASS

Aisenberg, Myron S., New Britain, Conn.
 Atno, Winfield J., Newark, N. J.
 Blank, Samuel H., Camden, N. J.
 Bock, C. Adam, Baltimore
 Clark, John F., Utica, N. Y.
 Emmart, L. Lynn, Baltimore
 Gaver, Grayson W., Myersville
 Gibson, Moses, Brooklyn, N. Y.
 Goldstein, Saul, Newark, N. J.
 Greenberg, A. D., New Haven, Conn.
 Kiell, Cecil I., Newark, N. J.
 Leades, Saul, New Britain, Conn.
 Lugar, Troy C., New Castle, Va.

Reichel, William, Annapolis
 Rothfeder, S. N., New Britain, Conn.
 Saliva, Alfredo S., Mayaguez, Porto Rico
 Scherr, Nathan, Baltimore
 Shehan, Daniel E., Baltimore
 Silverman, Jack B., Newark, N. J.
 Smith, Oswald P., Asheville, N. C.
 Soifer, Max E., Hartford, Conn.
 Spinner, Alex. J., Newark, N. J.
 Terhune, W. Clifford, Paterson, N. J.
 Thomas, H. Burgess, Culpepper, Va.
 Wolfe, Maynard D., Bloomfield, N. J.

SOPHOMOR CLASS

Adair, W. V., Grafton, W. Va.
 Amenta, L. J., North East, Pa.
 Ashby, John L., Mt. Airy, N. C.
 Betts, Allan R., Morris Plains, N. J.
 Brenner, Morris, Pittsburgh, Pa.
 Brickner, Lottie, New York, N. Y.
 Brown, Louis L., Ellicott City
 Callaway, William R., Mt. Airy, N. C.
 Campbell, Ralph D., Newark, N. J.
 Childers, Ellsworth W., Salem, W. Va.
 Cook, James R., Frostburg
 Coward, C. C. Cheraw, S. C.
 Crowley, W. H., Troy, N. Y.
 Cummings, E. S., Newark, N. J.
 Davenport, J. M., Thomas, W. Va.
 Davidson, L., Lewisburg, W. Va.
 Gibbins, Edward B., Newark, N. J.
 Givens, Robert, Sinking Creek, Va.
 Goldstein, Joe, Washington, D. C.
 Goomrigian, Summit, N. J.
 Hoff, J. H., Wellsville, Pa.
 Hogan, J. D., Mt. Airy, N. C.
 Jerdon, Edward J., North Adams, Mass.
 Jones, J. A., Altoona, Pa.
 Karn, George C., Jefferson
 Kayne, L. E., Baltimore
 Kiser, William R., Keyser, W. Va.

McCarthy, Harry B., Swanton, Vt.
 Medearis, W. F., Winston-Salem, N. C.
 Mortenson, Perth Amboy, N. J.
 Munoz, C., Juana Diaz, Porto Rico
 Nesbitt, H. R., Ransomville, N. Y.
 Nimocks, H. S., Fayetteville, N. C.
 Perry, Elmer A., Warwick, N. Y.
 Prather, Ernest, Burnt House, W. Va.
 Pressly, W. A., Jr., Rock Hill, S. C.
 Richards, V. W., Wardtown, Va.
 Richmond, S. L., Hinton, W. Va.
 Rider, Charles A., Benwood, W. Va.
 Schmalenbach, Herbert M., Baltimore
 Shaak, W. D., Kearney, N. J.
 Sheppe, Alfred H., Lebanon Church, Va.
 Sherry, I. H., Baltimore
 Silberman, Harry A., Washington, D. C.
 Solomon, C. W., Norwich, Conn.
 Spritz, Harry, Baltimore
 Thaman, William C., Baltimore
 Thorn, Allen H., Newark, N. J.
 Walsh, Walter, Moriah Center, N. Y.
 Wasserberg, Irving, New York, N. Y.
 Whitehead, Alvin P., Moorehead City, N. C.
 Yates, Frank F., Grafton, W. Va.
 Young, Goerge W., Oberlin, Pa.

FRESHMAN CLASS

Adkins, Lester O., Parsonsburg
 Bauder, John F., Newark, N. J.
 Bauer, —, Elizabeth, N. J.
 Bazinet, Wilford, Jr., Webster, Mass.
 Begg, John F., Waterbury, Conn.
 Bladen, Donald H., Dundalk
 Boatman, W. W., Orting, Wash.
 Bradshaw, J. P., Burkville, Va.
 Cardona, Oscar de, Aguadilla, Porto Rico
 Casey, John A., Wilmington, Del.
 Chimachoff, Nathan, Newark, N. J.
 Christian, W. P. C., Pedro Migull, C. Z.

Corcoran, Donald M., New London, Conn.
 De Vita, A. L., Livingston, N. J.
 Dillon, Francis W., Milford, Mass.
 Fernandez, Julio M., Aguadilla, Porto Rico
 Fitzgerald, George E., Churnbusco, N. Y.
 Gibbins, Clifford H., Newark, N. J.
 Goldstein, Milton, Brooklyn, N. Y.
 Grenpler, Karl F., Baltimore
 Hayes, Francis I., Waterbury, Conn.
 Heywood, John, Jr., North Adams, Mass.
 Hinebaugh, D. S., Thomas, W. Va.
 Hogle, W. Mason, S. Glens Falls, N. Y.

Hurst, Orville C., Wilsonburg, W. Va.
 Kearfott, J. G., Jr., Shipman, Va.
 Kelley, Harry H., Plattsburg, N. Y.
 McCutcheon, Robert B., Newark, N. J.
 Miller, Wilson L., Cape May, N. J.
 Moss, W. Wade, Jr., Baltimore
 Myrowitz, Bernhard C., New York, N. Y.
 Nigaglioni, Julio, Yauco, Porto Rico
 Racicot, George, Webster, Mass.
 Rice, Ray E., Seven Stars, Pa.
 Rutrough, Bruce W., Roanoke, Va.
 Sherrard, Vernon F., Presque Isle, Me.
 Short, J. R., Lex, W. Va.

Sickles, William V., Troy, N. Y.
 Styers, Edward J., Baltimore
 Swing, James P., Jr., Ridgely
 Taylor, J. Kenneth, Frostburg
 Thacker, Alice, Franklin, W. Va.
 Thacker, Paul S., Franklin, W. Va.
 Thomas, Carl L., Danville, Va.
 Tressler, Roland A., Baltimore
 Trettin, Clarence, Baltimore
 Vazquez, Jorge, Ponce, Porto Rico
 Whitehead, J. W., Moorehead City, N. C.
 Williams, Ben, Jr., Greenwood, S. C.
 Wilson, H. Davis, Baltimore

SCHOOL OF PHARMACY

SECOND-YEAR CLASS

Anderson, Charles R., Pikesville
 Berman, Isador, Baltimore
 Block, Samuel, Baltimore
 Campbell, Stanley L., Baltimore
 Donohue, Frank J., Jr., Clarksburg, W. Va.
 Downey, Frederick W., Chevy Chase
 Fields, Thomas E., Pikesville
 Flom, Isaac, Baltimore
 Gaver, Gaither C., Myersville
 Haynes, Marvin C., Dutton, Va.
 Hill, Eric B., Hickory, Miss.
 Johnson, Norman M., Ellicott City
 Joseph, Jacob G., Baltimore
 Kaluska, Joseph C., Lakeland
 Karwacki, Frank W., Baltimore
 Kaylus, Albert G., Baltimore
 Kelly, George B., Winchester, Va.
 Leiva, Carlos E., San Luis, Cuba

Looney, Ernest W., Spencer, W. Va.
 Maginnis, William S., Baltimore
 Marecki, Philip T., Baltimore
 Marks, Sydney I., Baltimore
 Morris, Eugene G., Baltimore
 Paxson, Robert L., Round Hill, Va.
 Pilson, Robert A., Baltimore
 Piraino, Vincent J., Baltimore
 Pross, Clarence, Baltimore
 Rosenberg, Joseph J., Baltimore
 Shannon, Donald A., Baltimore
 Shoemaker, William C., Hampstead
 Sprucebank, Roy A., Sparrow's Point
 Wegad, Evelyn, Baltimore
 Weinberg, Harry, Baltimore
 Weinstein, Abraham H., Baltimore
 Williams, Benja in N., Greenwood, S. C.
 Wooten, Robert O., Baltimore

FIRST-YEAR CLASS

Andrews, Marvin J., Bristol, Tenn.
 Batt, William H., Davis, W. Va.
 Berger, George W., Sparrow's Point
 Blaine, Edward I., Jr., Pocomoke City
 Burrows, Dudley A., Enfield, N. C.
 Cortes, Octavio, Arecibo, Porto Rico
 Foose, Wilbur C., York, Pa.
 Ginnavan, William J., Jr., Montgomery, Ala.
 Glick, Samuel, Baltimore
 Gordy, Howard L., Laurel, Del.
 Gould, William M., Sparrow's Point
 Harbaugh, Arthur C., Hagerstown
 Harmon, Carl M., Dundalk
 Heck, Leroy S., Baltimore
 Herman, David, Baltimore
 Hettelman, Milton L., Baltimore
 Hopkins, Charles H., Baltimore
 Jalil, Louis B., Bahia, Ecuador

Krieger, Max A., Baltimore
 Kroopnick, Jennie, Baltimore
 Lyon, Andrew T., Havre de Grace
 Marsh, Charles W., Baltimore
 Morales, Amparo Vila, Rio Piedras, Porto Rico
 Nougueras, Adelo Miguel, Rio Piedras, Porto Rico
 O'Neill, Lawrence J., Baltimore
 Pelaez, Jose, Santiago de Cuba, Cuba
 Richardson, James J., Bel Air
 Richmond, Lewis E., Norfolk, Va.
 Ruff, William A., Baltimore
 Schapiro, Louis, Baltimore
 Scher, Robert S., Ellicott City
 Smoak, Claude M., Bamburg, S. C.
 Somerlatt, Virginia G., Cumberland
 Thompson, William H., Oxford
 Viteri, Humberto, Bahia, Ecuador

UNCLASSIFIED

Colucci, Nicholas J., Stamford, Conn.	Koons, George S., Havre de Grace
Dillon, William J., Baltimore	Marley, John V., Towson
Eselhorst, Albert R., Baltimore	Newmeyer, Alvin S., Havre de Grace
Gallaher, William W., Charles Town, W. Va.	Rosiak, Mitchell B., Baltimore
Green, William O., Havre de Grace	Schwartz, John T., Baltimore
Hood, Thomas E., New Florence, Pa.	Wagner, Manuel B., Baltimore
Jester, Henry F., Jestersville	

COLLEGE OF EDUCATION

SENIOR CLASS

Goodwin, Leonard M., Potsdam, N. Y.	Holter, Cecil K., Jefferson
Graham, J. Ralph, Barclay	Mackert, Charles L., Sunbury, Pa.
Haig, Robert V., Riverdale	

JUNIOR CLASS

Burroughs, J. Armstead, Clinton	Nelson, Gordon V., Newport News, Va.
Canter, Francis D., Aquasco	Peterman, Walter W., Clear Spring
McDonald, William F., Barton	Raedy, Michael L., Jr., Washington, D. C.
Morgan, Paul T., Baltimore	Smith, Mildred P.

SOPHOMORE CLASS

Anderson, Mary P., Washington, D. C.	McBride, Austin A., Middletown
Baldwin, Francis W., Jr., Huntingdon, Pa.	Mathias, Leonard C., Hagerstown
Benson, George R., Westminster	Nock, Randolph M., Stockton
Lighter, Richard C., Middletown	Watkins, Donald E., Mt. Airy

FRESHMAN CLASS

Beachley, Dewey, Middletown	Groton, A. Brooks, Pocomoke
Byrd, J. W. Miles, Crisfield	Hope, Mary E., Washington, D. C.
Foster, James J., Parkton	Morris, Mildred, Salisbury
Glenn, Wilbur J., Smithsburg	Remsburg, Harold A., Middletown

FEDERAL BOARD

Triplett, C. Charles, Washington, D. C.

UNCLASSIFIED

Branner, Cecil G., Pocomoke	Kline, Ralph G., Frederick
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COLLEGE OF HOME ECONOMICS

SENIOR CLASS

Edmonds, Letha G., Rockville

JUNIOR CLASS

Enner, Huldah E., Sparks	Smith, Mildred P., Brookland, D. C.
	Tarbert, Rebecca, Glencoe

SOPHOMORE CLASS

Aman, Helen L., Hyattsville	Killiam, Audrey, Del Mar
Cawther, Elizabeth G., Sparks	McCall, Elizabeth G., College Park
Ellis, Hermania L., Washington, D. C.	Smith, Nellie O., Brookland, D. C.

FRESHMAN CLASS

~~Castella, Olive, Riverdale~~	Morris, Sarah E., Hyattsville
Eddy, Muriel J., Berwyn	~~Mountain, Eunice, Davis, W. Va.~~
Haag, Mary S., College Park	Murphy, Anna M., Staunton, Va.
~~Lemon, Frances, Williamsport~~	~~Williams, Esther, Lanham~~
McBrien, Laura, Riverdale	

FEDERAL BOARD

Pfefferkorn, Hilda, Baltimore

De Vol, Helen Mullen, Crawfordsville, Ind.

THE GRADUATE SCHOOL

Bailey, Clyde H., St. Paul, Minn.
 Drawbaugh, John R., College Park
 Eppley, Geary, Washington, D. C.
 Ezekiel, Walter N., Berwyn
 Haag, J. Roy, College Park
 Harman, Susan E., Omega, Okla.
 Hockman, Goerge B., Hagerstown
 Holmes, Grace B., Washington, D. C.
 Jones, John P., Davidsonville
 Lemon, Frank M., Roanoke, Va.
 Martin, John H., Corvallis, Ore.

Matzen, B. Andrew, Berwyn
 Miller, Erston V., Hagerstown
 Rohde, W. C., Baltimore
 Sando, William J., Washington, D. C.
 Shelling, David H., Baltimore
 Smith, Arthur M., College Park
 Stanton, Thomas R., Hyattsville
 Truitt, Reginal, College Park
 Wiley, R. C., College Park
 Winant, Howard B., Washington, D. C.
 Young, Malcolm R., Beesley's Point, N. J.

THE SUMMER SCHOOL

Andrews, Virginia L., Cumberland
 Ashton, Mary M., Clarksburg
 Atkins, Gladys M., La Plata
 Aud, Rose H., Valley Lee
 Baden, Edna I., Baden
 Baden, Elizabeth L., Baden
 Bailey, Mary E., Abell
 Baker, Amelia, Ammendale
 Baity, Earl C., Streett
 Baldwin, Nora I., Collington
 Ball, Harry C., Baltimore
 Barnes, Lucille M., Port Tobacco
 Barnhart, Emma J., Hancock
 Barnhart, Orintha P., Hancock
 Bean, Lillian W., Waldorf
 Bean, Violet M., Great Mills
 Becraft, Mabel V., Washington Grove
 Bell, Louise W., Lonaconing
 Biggs, Grace M., Jessup
 Biser, Belva R., Lewistown
 Blandford, Alma, Clinton
 Bloom, Martha L., Ellicott City
 Bomberger, Lawrence J., College Park
 Boothe, Rosie E., Drayden
 Bounds, Florence, Quantico
 Bowie, Jane R., La Plata
 Bouman, Frances M., Germantown
 Braungard, Paul J., Hagerstown
 Brewer, Mary Mc P., Rockville
 Burdette, Dorothy M., La Plata
 Burke, Mabel, Cumberland

Burroughs, Alice R., Mechanicsville
 Burroughs, Louise M., Clinton
 Caltrider, Samuel P., Westminster
 Canter, Grace M., Hughesville
 Capaul, Jacob, Washington, D. C.
 Carrick, Mary A., Capitol Heights
 Chichester, Peter W., Aquasco
 Clandaniel, George W., Kennedyville
 Cochrane, Ethel L., La Plata
 Coleman, Cora M., Chester
 Collins, Mildred S., Presto
 Connick, William R., Baden
 Conway, James P., Cumberland
 Cooksey, Agnes, La Plata
 Cornelius, Mary, Galena
 Coyle, John W., East Syracuse
 Coyle, Wilbur F., Jr., Baltimore
 Crane, Mary E., Harrington, Del.
 Cressman, Kathryn, Boonsboro
 Crosky, Susan E., Fair Haven
 Davis, Ethe. M., Piscataway
 Davis, John J., Garrett Park
 de Corse, Emma E., Mechanicsville
 Dent, Olivia S., Oakley
 Dixon, Bertha G., Sandgates
 Dorsey, Ethel A., Beltsville
 Dryden, Mildred E., Princess Anne
 Dugan, Hazel V., Bowie
 Dusenbury, Lillian, Lanham
 Edmonds, Letha G., Rockville
 Engle, Ruth B., Frostburg

Ewell, Goldie, Compton
 Exline, Etta F., Hancock
 Fainter, Mary C., Hyattsville
 Fitzgerald, Gilbert B., Princess Anne
 Fletcher, Bertice L., Hancock
 Foltz, Ethel L., Hagerstown
 France, Mazie A., Hagerstown
 Freeman, Mary J., Du Bois
 Garner, Mary E., Baden
 Gladden, Minnie M., Annapolis
 Goldsborough, Philomena D., Hollywood
 Goodman, Nannie D., Deale
 Gough, Lucy B., Wicomico
 Greenwell, Pauline T., Leonardtown
 Greer, Marguerite M., Brentwood
 Hall, Annie L., Glenndale
 Halloran, Marie J., Hyattsville
 Haring, Gladys A., Cambridge
 Harman, Irene N., Maryland
 Harper, J. Norman, Frederick
 Hawkins, Belle P., Gaithersburg
 Hayden, Katharine S., Hurry
 Herbert, Evelyn, Severn
 Hetterly, Ethel M., Mt. Rainier
 Higgins, Daisy C., Gaithersburg
 Hildebrand, Maude E., Hagerstown
 Hileman, Julie M., Frostburg
 Hill, Elsie M., Cumberland
 Hill, Neely, Baltimore
 Hinebaugh, Leota, Cumberland
 Hodges, Loraine G., Oakley
 Hook, Elizabeth G., Baltimore
 Hughes, Helen C., Benedict
 Hughes, Virginia, Easton
 Hyde, Elizabeth G., Port Tobacco
 Irving, Mary R., Boonsboro
 Jaeger, Margaret M., Mitchellville
 Jarboe, Maude M., Mechanicsville
 Johnson, Clarence E., Laurel
 Jones, Isabel B., Brookeville
 Kaufman, Helen S., Frederick
 Keefauver, Lloyd C., Hampstead
 Kelso, Beulah, Cumberland
 Kemper, Alice C., Brandywine
 Kerby, Olivia J., Surrattsville
 Kersey, Sarah E., Chester
 Kessler, Mary A., Hyattsville
 Keyes, Elizabeth, Washington, D. C.
 Keyes, Mary G., Washington, D. C.
 Knipple, Julius G., Manchester
 Lanhan, Mary E., Seat Pleasant
 Latham, Myrtle M., Clements
 Lemen, Nellie, Williamsport
 Lepson, Thomas E., College Park
 Lint, David L., Washington, D. C.
 McAlpine, Florence K., Lonaconing
 McCoy, Maud V., Beltsville
 McGrady, Loretto, Cumberland
 McGregor, Ellen E., Upper Marlboro

MacKay, Anna P., Clinton
 Mann, T. T., Piney Grove
 Manning, Roger I., Accokeek
 Matthews, Margaret E., Cambridge
 Mattingly, Laura E., Laurel Grove
 Mayhew, Ruth M., Upper Marlboro
 Mead, Irene C., College Park
 Melvin, Catherine, Henderson
 Miller, Louise, Keedysville
 Mitchell, Rosa A., Laurel
 Morgan, Edwin K., Washington, D. C.
 Morgan, Paul T., Baltimore
 Mullen, Charles L., Hagerstown
 Murphy, Anna L., Ijamsville
 Murray, Edna G., Brandywine
 Murray, Harriet L., Washington, D. C.
 Newman, Hettye, Oxford
 Norris, Lucille A., Great Mills
 Oldenburg, Lester W., Hyattsville
 Oliver, Alice G., Cheltenham
 Park, John, Frostburg
 Patrick, Ethel D., Woodbine
 Patrick, Olive J., Woodbine
 Payne, Olive G., Surrattsville
 Peden, Virginia, Washington, D. C.
 Penman, Edna P., Mt. Rainier
 Phipps, Emma J., Anne Arundel
 Phipps, Kathryn B., Tracy's Landing
 Plummer, Mattie C., Woodwardville
 Pollitt, Florence, Princess Anne
 Pope, Jacob C., Corry, Pa.
 Porter, Anna E., Stevensville
 Powell, Robert W., Princess Anne
 Price, Ruth E., Sudley
 Prout, Lina, Friendship
 Pullen, Jesse, Martinsville, Va.
 Pumphrey, Alice L., Germantown
 Pumphrey, Esther, Germantown
 Pumphrey, Nellie L., Upper Marlboro
 Purnell, Dorothy, Frostburg
 Purnell, Henrietta S., Frostburg
 Pyles, Katherine, Washington, D. C.
 Quaintance, Howard W., Washington, D. C.
 Queen, Helen H., Waldorf
 Raum, Charles L., Silesia
 Reinhart, Ida N., Frederick City
 Rison, Jennie F., Rison
 Roberts, Barbara W., Ridgely
 Robinson, Edith A., Newark, Del.
 Robinson, Ml Edith, Brightwood, D. C.
 Shaffer, Harry H., Upperco
 Sheeley, Edith L., Hagerstown
 Shorb, Mildred B., Lewistown
 Silver, Isidor, Washington, D. C.
 Smith, George F., Big Spring
 Smith, Mame, Ridgely
 Snyder, Pauline, Keedysville
 Soper, Elsie M., Beltsville
 Soper, Sarah G., Beltsville

Stamp, Adele H., Baltimore
 Storer, Rosalie, Cumberland
 Stout, Robert W., Poolesville
 Sturgis, William C., Snow Hill
 Sussman, Abram A., Baltimore
 Tait, George S., Fairfax
 Tippet, Joseph P., Newport
 Todd, Elma E., Preston
 Triplett, Charles C., College Park
 Turner, Madeline M., Gambrills
 Gwiley, Annette M., Hurlock
 Umbarger, Henry L., Bel Air
 Umhau, Katherine S., Washington, D. C.
 Van Horn, Marie A., Glenndale

Vasant, Susan A., Chestertown
 Varner, Hilda V., Hagerstown
 Wa'ters, Edith E., Federalsburg
 Walter, Edith F., Nanjemoy
 Ward, Hilda M., Baden
 Warthen, Albert E., Monrovia
 Weaver, Adah M., Keedysville
 Wheeler, Anna M., Hurry
 Wheeler, Edna M., Hurry
 White, Melva I., Surrattsville
 Willison, Henrietta R., Cumberland
 Wilson, Lois, Keedysville
 Wolfe, Elmer A., Union Bridge
 Young, Sallie P., Frederick

SCHOOL FOR NURSES

SENIOR CLASS

Bateman, Louise, Bel Air
 Childs, Helen, Howardsville
 Fisher, Mary, Lonaconing
 Gaver, Norman, Meyersville
 Gorman, Ruth, Baltimore
 Hampton, Claribel, Bryson City, N. C.
 Hanna, Isabelle J., Cambridge
 Hogshead, Kate, Greensboro, N. C.
 McDaniel, Mary, Halethorp

Miller, Sara J., Chestertown
 Minnis, Christine, Connellsville, Pa.
 Neady, Susan, Waynesboro, Pa.
 Reamey, Eugenie, Edwardsville, Va.
 Reese, Zadith, Princess Anne
 Reister, Ruby, Ashville, N. C.
 Rhodes, Geraldine, Ashville, N. C.
 Smith, Julie R., Taneytown
 Wood, Anna E., Annapolis

INTERMEDIATE CLASS

Bowie, Lucile L., Front Royal, Va.
 Callaghan, Veronica E., Dennison, Ohio
 Deputy, Mary J., Worton
 Duhois, Cecile M., Baltimore

Elgin, Grace L., Forest Park
 Lord, Nettie B., Preston
 Morrison, Frankie B., Juniata, Pa.
 Yeager, Eva, Cumberland

JUNIOR CLASS

Bishop, Maude, Norfolk, Va.
 Boyd, Ruth, Street
 Doub, Margaret H., Hagerstown
 Edwards, Mary W., Edwardsville Va.
 Graham, Pearl B., Baltimore
 Harkins, Hulda, Street
 Hazen, Dorothy L., Union City, Pa.
 Horst, Kathryn, Hagerstown
 Lewis, Lauverne, Eckhart
 McCann, Wilhelmina N., Street
 Mauer, Mary E., Waterloo, N. Y.

Mauer, Minnie F., Waterloo, N. Y.
 Nagel, Ida M., Federalsburg
 Reade, Kathryn A., Harborton, Va.
 Schleuss, Frances M., Martinsburg, W. Va.
 Scheorder, Marie, Cambridge
 Stailey, Margaret, Liverpool, Pa.
 Toms, Kittie R., Funkstown
 Tudor, Rachel, Goldsboro, N. C.
 West, Regina M., Martinsburg, W. Va.
 White, Ruth A., Federalsburg

PROBATION CLASS

Dunn, Helen L., Baltimore
 Elliott, Icie M., Grafton, W. Va.
 Hoffman, Martha M., Smithsburg
 Hoke, Lillie R., Baltimore

Maxwell, Irene, Owings Mills
 Pannair, Isabelle, Roanoke, Va.
 Pratt, Anna E., Baltimore
 Teeple, Helen S. J., Baltimore

SUMMARY OF STUDENT ENROLLMENT AS OF MARCH 15, 1921

THE COLLEGE OF AGRICULTURE.....	186
THE COLLEGE OF ENGINEERING.....	113
THE COLLEGE OF ARTS AND SCIENCES.....	132
THE SCHOOL OF MEDICINE.....	258
THE LAW SCHOOL.....	491
THE SCHOOL OF DENTISTRY.....	160
THE SCHOOL OF PHARMACY.....	84
THE COLLEGE OF EDUCATION.....	31
THE COLLEGE OF HOME ECONOMICS.....	21
THE GRADUATE SCHOOL.....	22
THE SUMMER SCHOOL, 1920.....	208
THE SCHOOL FOR NURSES.....	55
INDUSTRIAL TEACHERS' TRAINING COURSES.....	8
EXTENSION COURSES.....	55
GRAND TOTAL.....	1824
DUPLICATIONS.....	22
TOTAL NET ENROLLMENT.....	1802

GENERAL INDEX

- Administration, 9, 28, 38
 - building, 22
 - committees, 8
 - council, 10
 - officers of, 9
- Administrative officers, 9
 - procedure, 38
- Admission, 32
 - certificate, by, 33
 - elective subjects, 33
 - examination, by, 34
 - to advanced standing, 35
 - transfer, by, 34
 - units, number required, 32
- Advanced bacteriology, 63
 - degrees, 145
- Agents, county, 15, 16
- Agricultural building, 28
 - bacteriology, 63
 - chemistry, 87, 88, 112
 - county agents, 15, 16
 - courses, special, for Federal Board students, 57
 - economics, 70
 - education, 44, 120, 121, 127
 - experiment station, 31, 41
 - experiment station staff, 13
 - eastern branch, 31
 - extension, 30
 - extension staff
- Agriculture, College of, 41
 - and home economics, 30
- Agronomy, 43, 58
- Algebra, advanced, 103
- Analytical chemistry, 111
- Anatomy and physiology, 62
- Ancient languages and philosophy, 113
- Animal husbandry, 44, 60, 61, 62
 - diseases, 62
 - general, 62
 - industry, division of, 44
 - pathology and veterinary medicine, 45
 - pests, 68
- Alumni association, 27
- Aquiculture, zoology and, 99
- Architecture, home, 151
- Arts and Sciences, College of, 83
 - education, 125
 - and handicraft, 151
 - civic, 75
- Astronomy, 103
- Athletics, 26
- Bacteriology, 63
 - and sanitation, 46, 62
 - general, 62
- Band, military, 100
- Barn practice, 66
- Battalion, 163
- Bee culture, entomology and, 48, 68
- Beef production, 60, 62
- Bio-chemistry, 79
- Biometry, 59
- Board of Regents, 8
- Botany, 106
- Breeding:
 - animal, 60, 61
 - advanced, 61
- Breeds and judging, 61
- Buildings, 22, 23, 24, 25
- Business administration, commerce and, 85
 - economics, 109
 - management, journalistic, 109
- Calculus, 103
- Calendar, University, 5, 6, 7
- Calvert Hall, 23
- Cereal crops, 58, 59
- Certificates, two-year, 36, 41
- Chemical building, 23
 - engineering, 113
 - society, 27
- Chemistry, department of, 87
 - agricultural, 88
 - analytical, 111
 - fertilizer and food, 113
 - general, 89
 - industrial, 87, 112
 - inorganic, 110
 - organic, 110
 - physical, 110
- Chemists, 87

Chorus, 100
 Christian Associations, 28
 Civil engineering, 136
 Clubs, 28
 College of Agriculture, 41
 department of, 41
 general curriculum for, 42
 courses in, for soldiers and sailors, 56, 57
 two-year course, 55
 College of Arts and Sciences, 83
 College of Education, 117-130
 agricultural, 120, 121, 127
 curricula in, 118
 general, 124
 home economics, 122, 128
 industrial, 123, 129
 summer school, 30
 teachers' special diplomas, 117
 teachers' training courses, 119
 arts and science, 119, 125
 College of Engineering, 131
 curricula, 135
 College of Home Economics, 148
 description of courses, 150, 151, 152
 elective for students, 150
 Commerce and Business Administration, 85
 Committees, 8
 Contents, table of, 3
 Council of administration, 10
 County demonstration agents, 16
 clubs, 28
 Crop breeding, 59
 Courses, description of, 58, 87, 94, 106, 124, 139, 150, 165
 for graduates, 76, 106
 Cytology, 106
 Dairy bacteriology, 63
 husbandry, 47, 64
 production, 65
 Dairying, 64, 66
 advanced registry, 64, 66
 management of dairy young stock, 60, 62
 Debating and oratory, 26, 102
 Decoration, home, 151
 Degrees, 35, 41, 117, 132, 145, 146, 148
 conferred in 1920, 170, 171, 172, 173
 Dentistry, School of, 115, 116
 Department of Chemistry, 87
 Department of military science and tactics, 163
 of physical education, 169
 Design, machine, 143
 structural, 139
 Diamondback, 28
 Dining hall, 23
 Diplomas, 35
 teachers' special, 117
 Doctor of Philosophy, 146
 Domestic science, 148
 Dormitories, new
 Drafting, 132, 142
 Drainage, 140
 farm, 70
 Drama, French, 97
 and poetry, German, 97
 early English, 95
 Elizabethan, 96
 Dramatic club, 27
 Drawing, 142
 Dress design and making, 151
 Eastern branch, 31
 Economics, 107
 agricultural, 70
 College of Home, 122, 128, 148
 Education, College of, 117-130
 Electrical engineering, 137
 Engineering, College of, 131
 building, 23
 civil, 136, 139
 chemical, 113
 degrees, 132
 electrical, 137
 equipment, 132
 general, 142
 laboratories, 132, 133, 134
 mechanical, 113, 142, 143
 Society, 27
 English, 94
 Elizabethan drama, 96
 Entomology, 67
 and bee culture, 48
 economic, 67
 systematic, 67
 horticultural, 67
 Examinations, 38
 Expenses, fees and, 36, 37, 155, 160
 Baltimore schools, 38
 special, 37
 Experiment Station, Agricultural, 23, 31, 41
 Extension service, 30
 and research, 30
 staff, 15
 Faculty, 10, 11, 12, 13
 committees, 14
 Farm accounting, 70
 building, 69
 dairying, 64
 equipment, 68
 management, 48, 70
 practice, 42
 Federal Board students, 57
 Feeds and feeding, 60, 61
 Fees and expenses, 36, 37, 155, 160
 Baltimore schools, 38
 special, 37
 Fellowships, 25, 42
 Fertilizers and soils, 80, 82
 Filtration plant, 23
 Floriculture, 51, 73, 74, 75, 76, 77

Foods and nutrition, 61, 150
 Forage crops, 58, 59
 Forestry, 71
 Fraternities and sororities, 27
 French, 96
 Fruits, economic, 72
 commercial, 76
 culture, 71, 72
 judging, 72
 Garden flowers, 74
 Garment construction, 151
 Gas engines, 69
 General agriculture, curriculum for, 54
 chemistry, 89
 education, 124
 extension, 31
 General information, 19
 Genetics, 58, 61
 Geology, 80
 Geometry, 103
 German, 97
 Gerneaux Hall, 23
 Glee clubs, 100
 Government of the United States, 105
 of Europe, 105
 Grading system, 38
 Graduate School, The, 145
 advanced degrees, 145
 council, 10
 courses, 75
 fees, 37
 students, courses for, 59, 79
 Graduation and degrees, 35, 41
 Grain judging, 58, 59
 Greek, 113
 letter societies, 27
 Greenhouse construction and management, 73
 High school scholarships, 25
 Highway engineering, 139
 History and political science, 104
 of the University, 22
 Hog production, 60, 62
 Home economics, College of, 148
 education, 122, 128, 129
 and agriculture, 30
 Honor and awards, 26
 Honor system, 39
 Horse and mule production, 60
 Horticultural building, 23
 entomology, 67
 Horticulture, curricula, 50, 71
 requirements of graduate students in, 76
 Horticulture, curricula, 50, 71
 advanced, 76
 requirements of graduate students in, 76
 Hospital, Baltimore, 23
 College Park, 23
 House administration, 152
 Hydraulics, 134, 143
 Hydraulic and sanitary engineering, 134, 140, 143
 Income, 32
 Industrial chemistry, 87, 112
 education, 123, 129
 scholarships, 26
 Infirmary, 23
 Inorganic chemistry, 110
 Insecticides, 67
 Institutional management, 152
 Instruction, officers of, 11, 12, 13
 Journalism, 95
 Judging advanced, 60
 dairy products, 64, 66
 fruit, 72
 grain, 58, 59
 vegetable, 72
 Kappa Alpha, 27
 Keystone club, 28
 Kinematics, 143
 Landscape gardening, 50, 52, 74, 76, 77
 design, 74, 77
 practice, 50, 74, 77
 Language and literature, 85, 94, 95
 Language, ancient, philosophy and, 113
 Late registration fee, 38
 Latin, 114
 Law, School of, 153
 Least squares, 103
 Le Cercle Francais, 28
 Library, 24
 science, 104
 Liebig Chemical Society, 27
 Literature, English language and, 94
 modern language and, 96
 Literary societies, 27
 Live stock sanitation, 62
 Location of the University, 21
 Machine design, 141, 143
 Management of dairy young stock, 60, 62
 Markets and marketing, 61, 70, 108, 152
 Master of Arts, 146
 of Science, 146
 Mathematics, 102
 Meat and meat production, 60
 Mechanical drawing, 132, 142
 engineering, 133
 laboratory, 143
 Mechanics, 142
 Medals and prizes, 26, 27
 Medical curriculum, 91
 entrance requirements, 91
 seven-year course, 91
 Medicine, School of, 157
 Military science and tactics, department of, 163
 band, 100
 commissions, 165
 description of courses, 165, 166, 167, 168
 medal, 26

Milk, 65
 Millinery, 151
 Mineralogy, 113
 Modern language and literature, 96
 Morrill Hall, 23
 Morphology, 106
 Mule, horse and, production of, 60
 Music, 100
 Mycology, 106
 New Mercer Literary Society, 27
 Nu Sigma Omicron, 28
 Nutrition, 61, 150
 Officers, administrative, 9
 of instruction, 11, 12, 13
 Olericulture, 73
 Oral reading, 102
 Oratory, 26, 102
 Organic Chemistry, 110
 Organizations, University, 27
 Pathology, 45, 78
 Pests, 68
 Pharmacy, School of, 161
 Philosophy, ancient languages and, 113, 114
 Physical education and recreation, department
 of, 169
 examination, 38
 training, 38, 164
 chemistry, 110
 Physiology, anatomy and, 62
 Physics, 101
 Piano, 101
 Plant anatomy, 106
 diseases, 78
 morphology, 196
 mycology, 106
 pathology, 78
 physiology, 78
 Political science, history and, 104
 Pomology, 50, 71, 72, 75, 76
 Poultry building, 23
 husbandry, 80
 Pre-medical course, two-year, 90, 93
 curriculum, 92
 requirements for entrance, 92
 Prize, citizenship, 26
 Professional degrees in engineering, 146
 Psychology, 124
 Public speaking, 102
 Qualitative analysis, 110
 Quantitative analysis, 112
 Railways, electrical, 141
 Reading and speaking, 102
 Recreation, department of physical education
 and, 169
 Refunds, 37
 Register of students, 174-191
 Registration, date of, 38
 penalty for late, 38
 Research, extension and, 30

Reserve Officers' Training Corps, 163
 Rhetoric, 94
 Rifle club, 28
 Rossbourg club, 28
 Rural community and its education, 109
 organization, 70
 Sanitary engineering, hydraulic and, 140
 Sanitation, bacteriology and, 46, 62
 live stock, 62
 Schedule, maximum and minimum, 38
 Scholarship and self-aid, 25
 industrial, 26
 prizes and, 158
 School of Dentistry, 115
 faculty, 115
 requirements for matriculation, 115
 matriculation and fees, 116
 School of Law, 153
 faculty, 153
 fees, 155
 requirements for admission, 154
 School of Medicine, 157
 clinical facilities, 158
 dispensaries and laboratories, 158
 faculty, 158
 fees, 160
 prizes and scholarships, 158
 requirements for entrance, 91, 159
 requirements for pre-medical college course,
 92
 curriculum, 91
 School of Pharmacy, 161
 requirements for admission, 162
 faculty, 161
 Self-aid, scholarships and, 25
 Seminars, 59, 61, 62, 63, 65, 76, 78, 81, 113
 Seven-year course, combined, 91
 Sheep production, 60, 62
 Shop, 134, 144
 Short courses, two-year, 55, 61, 66, 68, 69, 70,
 78, 81, 94, 100
 Sigma Nu, 28
 Sigma Phi Sigma, 28
 Social Science, 85
 Societies, 27
 Sociology, 108
 Soils, 53, 80, 81
 and fertilizers, 80, 82
 bacteriology, 81
 Sororities, 27
 Spanish, 98
 Special courses, 118
 for teachers, 124
 Special fees, 37
 Sprays and spraying, 68
 Stock judging pavilion, 23
 Staff, Experiment Station, 13
 Extension Service, 15
 Station, Agricultural Experiment, 31, 41

Stock judging pavilion, 24
 Structural design, 139
 Student assembly, 27, 39
 organizations and activities, 27, 28
 publications, 28
 Student enrollment, summary of, 1921, 192
 Summary of student enrollment, 1921, 192
 Summer camps, 164
 Summer school, 30
 Surveying, 144
 Swine production, 60, 62
 Sword, company
 Teachers' special diplomas, 117
 Teacher training courses, 119
 Telegraphy and telephony, 141
 Terra Mariae, 28
 Testimonials, 170-191
 Textiles, 151
 Tractors and trucks, 69
 Trade and related subjects, 124
 Trigonometry, 103

Tuition, 38
 Two-year courses, 55, 61, 66, 68, 69, 70, 78, 81,
 94, 100
 agriculture, 55, 56, 57
 pre-medical, 93
 Unclassified students, 35
 Uniforms, 164
 Units, number required, 32
 University Council, 10
 Vegetable gardening, 50, 51, 72, 73, 75, 76, 77
 Veterinary medicine, animal pathology and,
 45, 62
 Vocational education, 127
 Voice, 100
 Withdrawals, 37
 Water supply, 24
 Woman's home economics practice house, 24
 Young Men's Christian Association, 28
 Young Women's Christian Association, 28
 Zoology and aquiculture, 99

